KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C250

2005.07

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

FIELD SERVICE TOTAL CONTENTS

SAFETY AND IMPORTANT WARNING ITEMS S-1
IMPORTANT NOTICE S-1
DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION S-1
SAFETY WARNINGS S-2
WARNING INDICATIONS ON THE MACHINE S-18
MEASURES TO TAKE IN CASE OF AN ACCIDENT S-20
Composition of the service manual C-1
Notation of the service manual C-2

bizhub C250 Main Unit

General 1
Maintenance 9
Adjustment/Setting 141
Troubleshooting 313
Appendix 427

Standard Controller

General 1
Maintenance 3
Adjustment/Setting 13
Troubleshooting 15

DF-601

General 1
Maintenance 5
Adjustment/Setting 13
Troubleshooting 29

PC-103/PC-203

General 1
Maintenance 3
Adjustment/Setting 13
Troubleshooting 19

PC-403

General 1
Maintenance 3
Adjustment/Setting 17
Troubleshooting 25

AD-503

General 1
Maintenance 3
Adjustment/Setting 7
Troubleshooting 11

FS-501

General 1
Maintenance 5
Adjustment/Setting 9
Troubleshooting 19

FS-603

General 1
Maintenance 5
Adjustment/Setting 23
Troubleshooting 51

SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the Safety and Important Warning Items described below to understand them before doing service work.

IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.
Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT does not warrant, either explicitly or implicitly, that the information contained in this Service Manual is complete and accurate.
The user of this Service Manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this Service Manual is intended.
Therefore, this Service Manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.
Keep this Service Manual also for future service.

DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions "⚠ DANGER", "⚠ WARNING", and "⚠ CAUTION" is defined as follows together with a symbol mark to be used in a limited meaning.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ **DANGER: Action having a high possibility of suffering death or serious injury**

⚠ **WARNING: Action having a possibility of suffering death or serious injury**

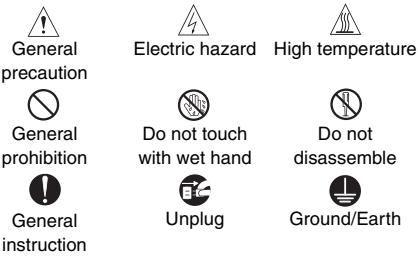
⚠ **CAUTION: Action having a possibility of suffering a slight wound, medium trouble, and property damage**

Symbols used for safety and important warning items are defined as follows:

△ :Precaution when servicing the product.

⃠ :Prohibition when servicing the product.

● :Direction when servicing the product.



SAFETY WARNINGS

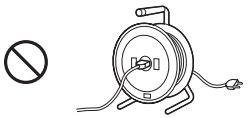
[1] MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

KONICA MINOLTA brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

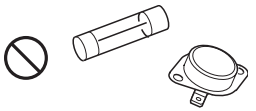
Prohibited Actions

⚠ DANGER

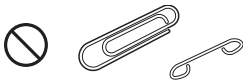
- Using any cables or power cord not specified by KMBT.



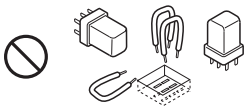
- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.



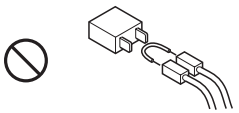
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



- Disabling relay functions (such as wedging paper between relay contacts)

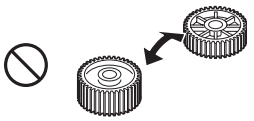


- Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT

- Using parts not specified by KMBT



[2] POWER PLUG SELECTION

In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

Power Cord Set or Power Plug

⚠ WARNING

- Use power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.

- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

- Conductors in the power cable must be connected to terminals of the plug according to the following order:
  - Black or Brown: L (line)
  - White or Light Blue: N (neutral)
  - Green/Yellow: PE (earth)

  Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

[3] CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

KONICA MINOLTA brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

1. Power Supply

Connection to Power Supply

⚠ WARNING

- Check that mains voltage is as specified.

  Connection to wrong voltage supply may result in fire or electric shock.

- Connect power plug directly into wall outlet having same configuration as the plug.

  Use of an adapter leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

  If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.

- Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.

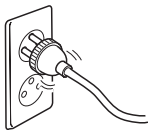
  If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.

  If excessive current flows in the wall outlet, fire may result.

- Make sure the power cord is plugged in the wall outlet securely.

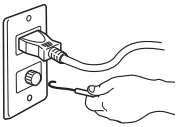
  Contact problems may lead to increased resistance, overheating, and the risk of fire.



- Check whether the product is grounded properly.

  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.

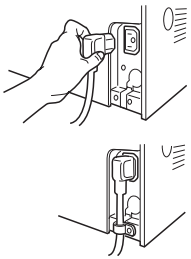
  Connect power plug to grounded wall outlet.



Power Plug and Cord

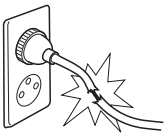
⚠ WARNING

- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When securing measure is provided, secure the cord with the fixture properly.
  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.

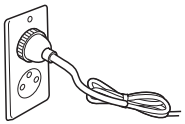


- Check whether the power cord is not stepped on or pinched by a table and so on.
  Overheating may occur there, leading to a risk of fire.

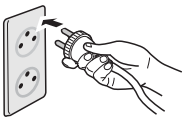
- Check whether the power cord is damaged. Check whether the sheath is damaged.
  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. Using the damaged power cord may result in fire or electric shock.



- Do not bundle or tie the power cord.
  Overheating may occur there, leading to a risk of fire.

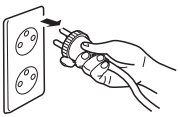


- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



- Do not insert the power plug into the wall outlet with a wet hand.
  The risk of electric shock exists.

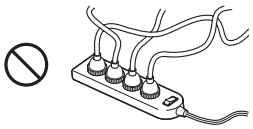
- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.



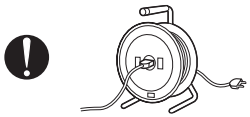
Wiring

⚠ WARNING

- Never use multi-plug adapters to plug multiple power cords in the same outlet.
  If used, the risk of fire exists.



- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.
  Do not use an extension cable reel with the cable taken up. Fire may result.

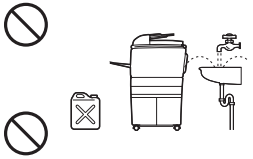


2. Installation Requirements

Prohibited Installation Places

⚠ WARNING

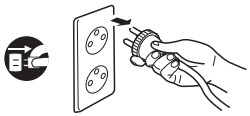
- Do not place the product near flammable materials or volatile materials that may catch fire.
  A risk of fire exists.
- Do not place the product in a place exposed to water such as rain.
  A risk of fire and electric shock exists.



When not Using the Product for a long time

⚠ WARNING

- When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord.
  Dust collected around the power plug and outlet may cause fire.



Ventilation

⚠ CAUTION

- The product generates ozone gas during operation, but it will not be harmful to the human body.

  If a bad smell of ozone is present in the following cases, ventilate the room.

  a. When the product is used in a poorly ventilated room
  b. When taking a lot of copies
  c. When using multiple products at the same time

Stability

⚠ CAUTION

- Be sure to lock the caster stoppers.

  In the case of an earthquake and so on, the product may slide, leading to a injury.

Inspection before Servicing

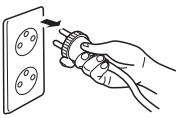
⚠ CAUTION

- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure, using only the prescribed tools. Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.

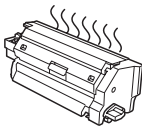
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

  When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.



- The area around the fixing unit is hot.

  You may get burnt.

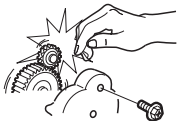


Work Performed with the Product Powered On

⚠ WARNING

- Take every care when making adjustments or performing an operation check with the product powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

Safety Checkpoints

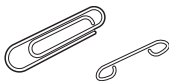
⚠ WARNING

- Check the exterior and frame for edges, burrs, and other damage.

  The user or CE may be injured.

- Do not allow any metal parts such as clips, staples, and screws to fall into the product.

  They can short internal circuits and cause electric shock or fire.



- Check wiring for squeezing and any other damage.

  Current can leak, leading to a risk of electric shock or fire.

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.

  Current can leak, leading to a risk of product trouble or fire.

- Check high-voltage cables and sheaths for any damage.

  Current can leak, leading to a risk of electric shock or fire.

Safety Checkpoints

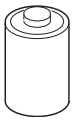
⚠ WARNING

- Check electrode units such as a charging corona unit for deterioration and sign of leakage.
  Current can leak, leading to a risk of trouble or fire.

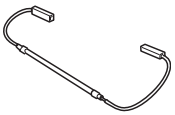
- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

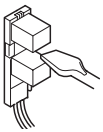
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.
  Improper replacement can cause explosion.



- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.
  A risk of fire exists.



- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.
  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.
  Current can leak, leading to a risk of electric shock or fire.

Safety Checkpoints

⚠ WARNING

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)

  A risk of product trouble, electric shock, and fire exists.

Handling of Consumables

⚠ WARNING

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.

  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

- Never throw the used cartridge and toner into fire.

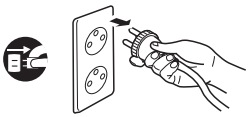
  You may be burned due to dust explosion.

Handling of Service Materials

⚠ CAUTION

- Unplug the power cord from the wall outlet.

  Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.

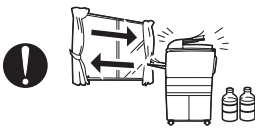
  A risk of fire exists.

Handling of Service Materials

⚠ CAUTION

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.
  A risk of fire exists.

- When using any solvent, ventilate the room well.
  Breathing large quantities of organic solvents can lead to discomfort.



[4] Used Batteries Precautions

ALL Areas

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Germany

VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

France

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Denmark

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

Finland, Sweden

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

Norway

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

[5] FUSE

CAUTION
Double pole / neutral fusing

ATTENTION
Double pôle / fusible sur le neutre.

[6] Laser Safety

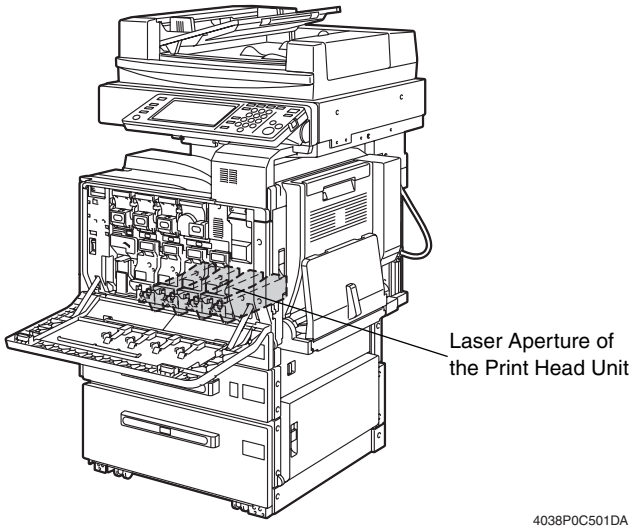
- This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

6.1 Internal Laser Radiation

semiconductor laser	
Maximum power of the laser diode	10 mW
Maximum average radiation power (*)	8.0 µW
Wavelength	775-800 nm

*at laser aperture of the Print Head Unit

- This product employs a Class 3B laser diode that emits an invisible laser beam. The laser diode and the scanning polygon mirror are incorporated in the print head unit.
- The print head unit is NOT A FIELD SERVICEABLE ITEM. Therefore, the print head unit should not be opened under any circumstances.



U.S.A., Canada
(CDRH Regulation)

- This machine is certified as a Class 1 Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.

- The label shown on page S-16 indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

CAUTION
- **Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.**

semiconductor laser	
Maximum power of the laser diode	10 mW
Wavelength	775-800 nm

All Areas

CAUTION
- **Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.**

semiconductor laser	
Maximum power of the laser diode	10 mW
Wavelength	775-800 nm

Denmark

ADVARSEL
- **Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. Klasse 1 laser produkt der opfylder IEC60825-1 sikkerheds kravene.**

halvlederlaser	
Laserdiodens højeste styrke	10 mW
bølgelængden	775-800 nm

Finland, Sweden

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

VAROITUS!
- **Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.**

puolijohdelaser	
Laserdiodin suurin teho	10 mW
aallonpituus	775-800 nm

VARNING!
- **Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.**

halvledarlaser	
Den maximala effekten för laserdioden	10 mW
våglängden	775-800 nm

VARO!
- **Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättomälle lasersäteilylle. Älä katso säteeseen.**

VARNING!
- **Osynlig laserstråining när denna del är öppnad och spärren är urkopplad. Betrakta ej stråien.**

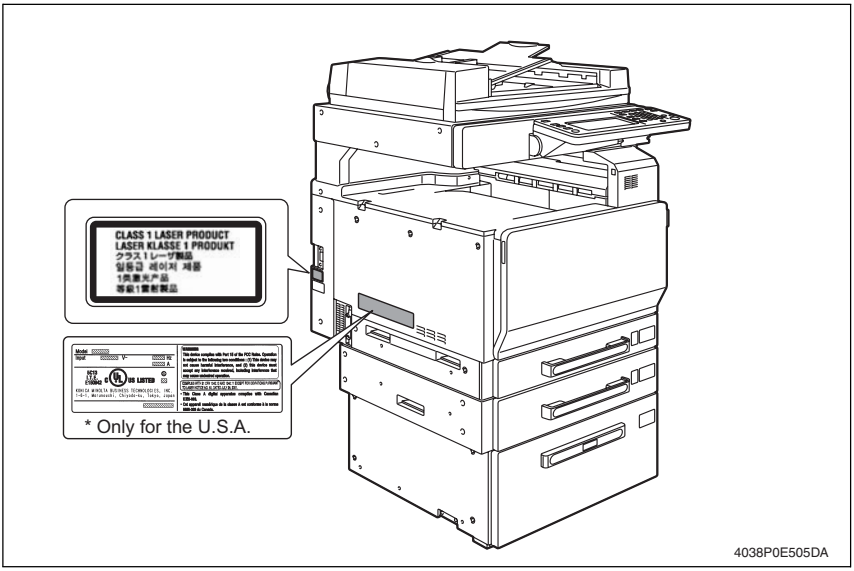
Norway

ADVERSEL
- **Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes för unsynlig laserstrålning, som overskrider grensen for laser klass 1.**

halvleder laser	
Maksimal effekt till laserdiode	10 mW
bølgelengde	775-800 nm

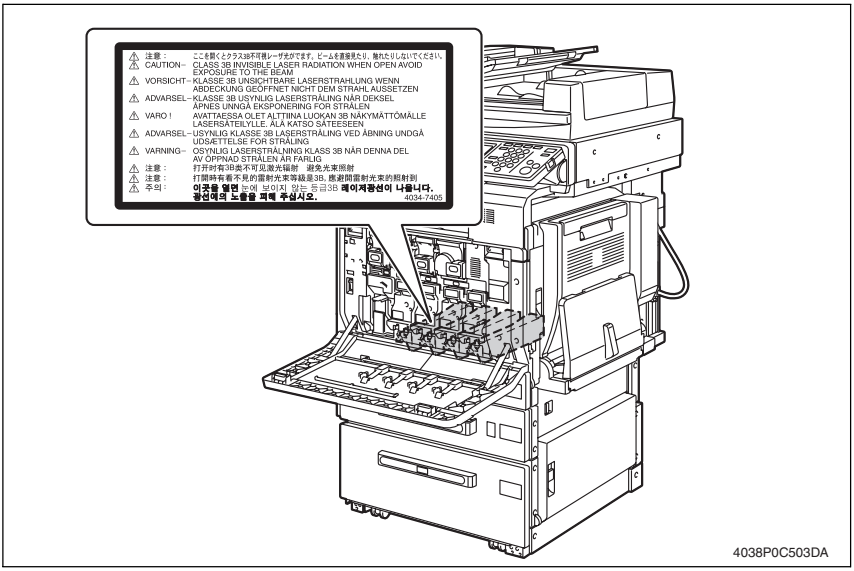
6.2 Laser Safety Label

- A laser safety label is attached to the inside of the machine as shown below.



6.3 Laser Caution Label

- A laser caution label is attached to the outside of the machine as shown below.



6.4 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

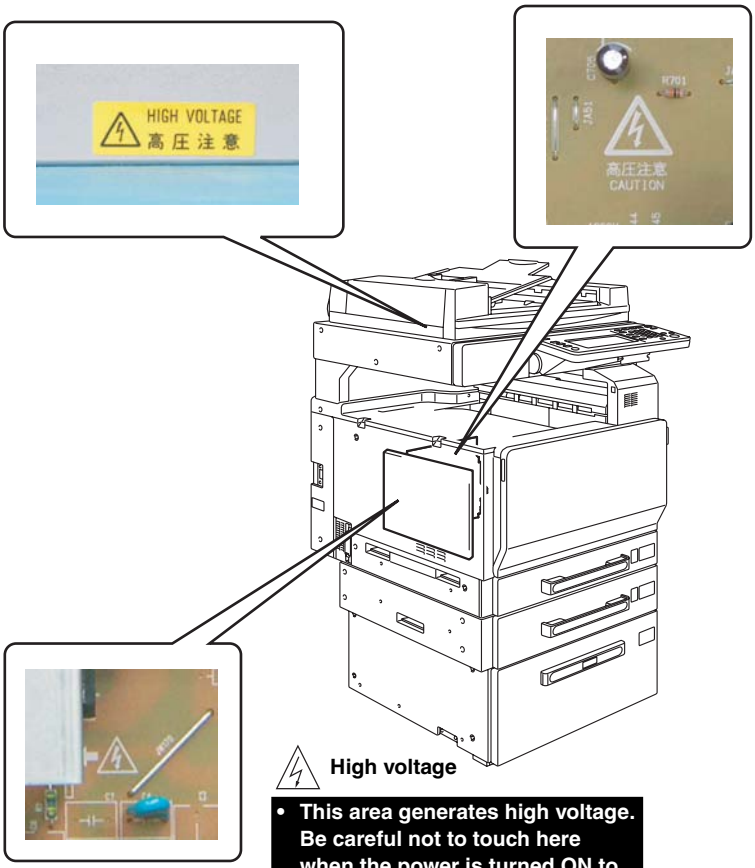
- When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.
- When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC Drum, be sure first to turn the printer OFF.
- If the job requires that the printer be left ON, take off your watch and ring and wear laser protective goggles.
- A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user's premises.
- The Print Head is not to be disassembled or adjusted in the field. Replace the Unit or Assembly including the Control Board. Therefore, remove the Laser Diode, and do not perform Control Board trimmer adjustment.

WARNING INDICATIONS ON THE MACHINE

Caution labels shown are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.

High voltage

- **This area generates high voltage. Be careful not to touch here when the power is turned ON to avoid getting an electric shock.**



High voltage

- **This area generates high voltage. Be careful not to touch here when the power is turned ON to avoid getting an electric shock.**

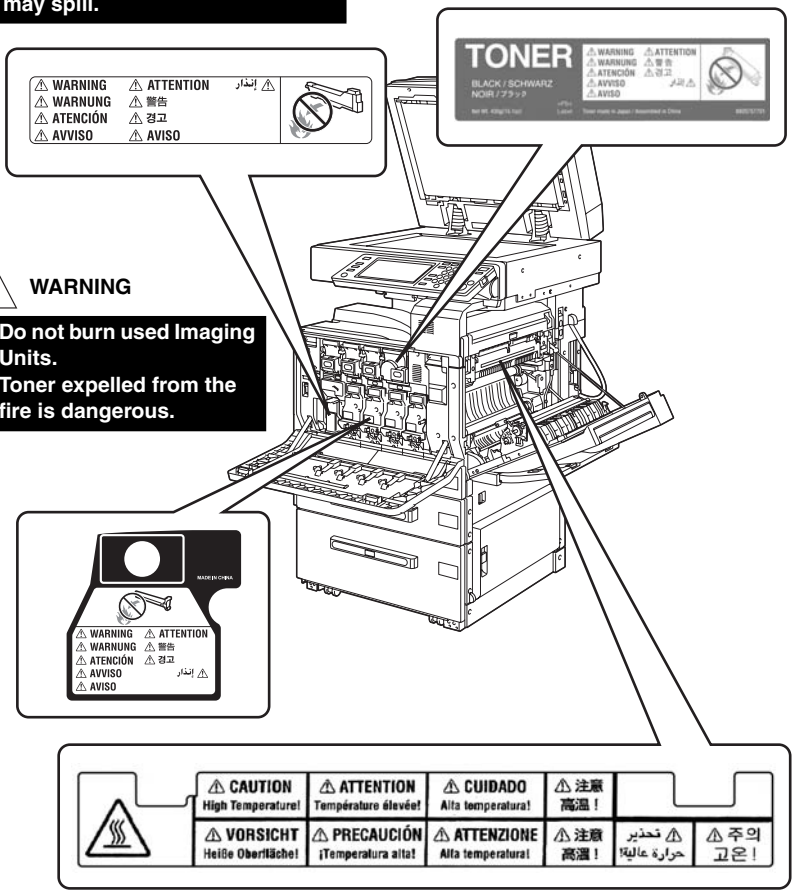
4038P0C506DA

WARNING

- **Do not position the used Waste Toner Box so that it is standing on end or tilted, otherwise toner may spill.**

WARNING

- **Do not burn used Toner Cartridges. Toner expelled from the fire is dangerous.**



WARNING

- **Do not burn used Imaging Units.**
  Toner expelled from the fire is dangerous.

CAUTION

- **The area around the Fusing Unit is extremely hot. Touching any part other than those indicated may result in burns.**

4038P0C504DA

CAUTION:

- **You may be burned or injured if you touch any area that you are advised not to touch by any caution label. Do not remove caution labels. If any caution label has come off or soiled and therefore the caution cannot be read, contact our Service Office.**

MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and KMBT must be notified.
3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by KMBT.
4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

Composition of the service manual

This service manual consists of Theory of Operation section and Field Service section to explain the main machine and its corresponding options.

Theory of Operation section gives, as information for the CE to get a full understanding of the product, a rough outline of the object and role of each function, the relationship between the electrical system and the mechanical system, and the timing of operation of each part.

Field Service section gives, as information required by the CE at the site (or at the customer's premise), a rough outline of the service schedule and its details, maintenance steps, the object and role of each adjustment, error codes and supplementary information.

The basic configuration of each section is as follows. However some options may not be applied to the following configuration.

<Theory of Operation section>

OUTLINE:	Explanation of system configuration, product specifications, unit configuration, and paper path
COMPOSITION/OPERATION:	Explanation of configuration of each unit, operating system, and control system

<Field Service section>

GENERAL:	Explanation of system configuration, and product specifications
MAINTENANCE:	Explanation of service schedule, maintenance steps, service tools, removal/reinstallation methods of major parts, and firmware version up method etc.
ADJUSTMENT/SETTING:	Explanation of utility mode, service mode, and mechanical adjustment etc.
TROUBLESHOOTING:	Explanation of lists of jam codes and error codes, and their countermeasures etc.
APPENDIX:	Parts layout drawings, connector layout drawings, timing chart, overall layout drawing are attached.

Notation of the service manual

A. Product name

In this manual, each of the products is described as follows:

(1)	PWB-MFP:	MFP Control Board
(2)	bizhub C250:	Main Unit
(3)	Microsoft Windows 95:	Windows 95
	Microsoft Windows 98:	Windows 98
	Microsoft Windows Me:	Windows Me
	Microsoft Windows NT 4.0:	Windows NT 4.0 or Windows NT
	Microsoft Windows 2000:	Windows 2000
	Microsoft Windows XP:	Windows XP
	When the description is made in combination of the OS's mentioned above:	
		Windows 95/98/Me
		Windows NT 4.0/2000
		Windows NT/2000/XP
		Windows 95/98/Me/ NT/2000/XP

B. Brand name

The company names and product names mentioned in this manual are the brand name or the registered trademark of each company.

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C250

Main Unit

2005.07

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

bizhub C250 Main Unit

General

1. System configuration 1
2. Product specifications 3
   - 2.1 Type 3
   - 2.2 Functions 4
   - 2.3 Types of Paper 5
   - 2.4 Maintenance 5
   - 2.5 Machine Specifications 6
   - 2.6 Operating Environment 6
   - 2.7 Print Functions 6
   - 2.8 Scan Functions 7

Maintenance

3. Periodical check 9
   - 3.1 Service schedule 9
   - 3.2 Maintenance items 9
     - 3.2.1 Parts to be replaced by users (CRU) 9
     - 3.2.2 Maintenance call (per 60,000-print) 10
     - 3.2.3 Periodical parts replacement 1 (per 120,000-print) 10
     - 3.2.4 Periodical parts replacement 2 (per 200,000-print) 11
     - 3.2.5 Periodical parts replacement 3 (per 300,000-print) 11
   - 3.3 Maintenance parts 12
     - 3.3.1 Replacement parts 12
     - 3.3.2 Cleaning parts 13
   - 3.4 Concept of parts life 14
   - 3.5 Maintenance procedure (Periodical check parts) 16
     - 3.5.1 Replacing the Tray 1 Feed Roller 16
     - 3.5.2 Replacing the Tray 1 Separation Roller Assy 16
     - 3.5.3 Replacing the Bypass Tray Feed Roller 17
     - 3.5.4 Replacing the Bypass Tray Separation Roller Assy 19
     - 3.5.5 Replacing the Tray 2 Separation Roller 20
     - 3.5.6 Replacing the Tray 2 Feed Roller 22
     - 3.5.7 Replacing the Tray 2 Pick-up Roller 25
     - 3.5.8 Cleaning of the Registration Roller 27

3.5.9 Replacing the Waste Toner Box ... 27
3.5.10 Cleaning of the Area around the Waste Toner Collecting Port ... 28
3.5.11 Replacing the Ozone Filter ... 28
3.5.12 Replacing the Deodorant Filter ... 29
3.5.13 Replacing the Dust Filter/Vertical Conveyance ... 29
3.5.14 Replacing the Dust Filter/Cooling Fan ... 29
3.6 Replacing the unit ... 30
3.6.1 Replacing the 2nd Image Transfer Roller Unit ... 30
3.6.2 Replacing the Image Transfer Belt Unit ... 31
3.6.3 Replacing the Toner Cartridge (C, M, Y, K) ... 33
3.6.4 Cleaning of the Comb Electrode ... 34
3.6.5 Replacing the Imaging Unit (C, M, Y, K) ... 35
3.6.6 Replacing the Fusing Unit ... 38
4. Service tool ... 40
4.1 CE Tool list ... 40
4.2 Copy materials ... 41
4.2.1 Imaging Unit Single Parts (IU) ... 41
4.2.2 Toner Cartridge Single Parts (T/C) ... 41
4.2.3 Waste Toner Box ... 41
4.2.4 Maintenance Kit ... 41
5. Firmware upgrade ... 42
5.1 Preparations for Firmware rewriting ... 42
5.1.1 Service environment ... 42
5.1.2 Application to be used ... 42
5.1.3 Installing the Cygwin ... 42
5.1.4 Writing into the Compact flash ... 45
5.2 Firmware rewriting ... 48
5.2.1 Updating method ... 48
5.2.2 Action When Data Transfer Fails ... 50
6. Other ... 51
6.1 Disassembly/Adjustment prohibited items ... 51
6.2 Disassembly/Assembly/Cleaning list (Other parts) ... 52
6.2.1 Disassembly/Assembly parts list ... 52
6.2.2 Cleaning parts list ... 53
6.3 Disassembly/Assembly procedure ... 54
6.3.1 IR Upper Right Cover/IR Right Cover/IR Upper Rear Cover ... 54
6.3.2 Left Cover/Upper Front Cover/IR Left Cover/IR Upper Front Cover ... 55
6.3.3 Original Glass/IR Front Cover ... 56

6.3.4 Exit Tray/Upper Rear Cover/Lower Rear Cover/Rear Left Cover 57
6.3.5 Multi Bypass Tray Left Cover/Multi Bypass Tray Right Cover/Multi Bypass Tray Upper Cover 58
6.3.6 Front Door 59
6.3.7 Rear Right Cover 59
6.3.8 Control Panel (UN201) 60
6.3.9 Tray 1 61
6.3.10 Tray 2 62
6.3.11 Tray 2 Rear Right Cover/Tray 2 Rear Left Cover 63
6.3.12 Tray 2 Right Rear Cover 64
6.3.13 Front Cover 64
6.3.14 Mechanical Control Board (PWB-M) 66
6.3.15 DC Power Supply (PU1) 69
6.3.16 Scanner Motor Drive Board (PWB-IC) 71
6.3.17 CCD Unit 71
6.3.18 Image Processing Board (PWB-C) 73
6.3.19 Slide Interface Board (PWB-SIF) 75
6.3.20 MFP Control Board (PWB-MFP) 76
6.3.21 DIMM0 (Work0), DIMM1 (Work1) 78
6.3.22 Hard Disk Drive (HDD) 78
6.3.23 High Voltage Unit (HV1) 80
6.3.24 Tray 1 Paper Size Board (PWB-I) 81
6.3.25 Tray 2 Control Board (PWB-Z-PC) 81
6.3.26 Tray 2 Paper Size Board (PWB-I-PC) 83
6.3.27 Inverter Board (PU201) 85
6.3.28 PH Interface Board (PWB-D) 85
6.3.29 Multi Bypass Unit 87
6.3.30 PH Unit 89
6.3.31 Transport Drive Assy 93
6.3.32 Hopper Drive Assy 95
6.3.33 Right Door Assy 96
6.3.34 Scanner Motor (M201) 100
6.3.35 Scanner Assy 103
6.3.36 Scanner Drive Cables 104
6.3.37 PWB Box 112
6.3.38 Color Developing Motor (M3) 115
6.3.39 Color PC Drum Motor (M2) 116
6.3.40 Toner Supply Motor C/K (M7) 116

6.3.41 Toner Supply Motor Y/M (M6) ... 116
6.3.42 Main Motor (M1) ... 117
6.3.43 Fusing Drive Motor (M4) ... 119
6.3.44 Tray 2 Lift-Up Motor (M3-PC) ... 121
6.3.45 Tray 2 Paper Feed Motor (M1-PC) ... 121
6.3.46 Tray 2 Vertical Transport Motor (M2-PC) ... 123
6.3.47 IDC/Registration Sensor/1, IDC/Registration Sensor/2 (SE1/SE2) ... 124
6.4 Cleaning procedure ... 126
6.4.1 PH Window ... 126
6.4.2 Image Transfer Belt Unit ... 127
6.4.3 Tray 1 Feed Roller ... 127
6.4.4 Tray 1 Separation Roller ... 127
6.4.5 Bypass Tray Feed Roller ... 128
6.4.6 Bypass Tray Separation Roller ... 128
6.4.7 Tray 2 Feed Roller/Tray 2 Pick-up Roller ... 129
6.4.8 Tray 2 Separation Roller ... 131
6.4.9 Tray 2 Transport Roller ... 132
6.4.10 Scanner Rail ... 132
6.4.11 Mirrors (1st/2nd/3rd) ... 133
6.4.12 Lens ... 134
6.4.13 Original Glass ... 134
6.4.14 CCD Sensor ... 135
6.5 Mount the original size detecting sensor/2 (PC204) ... 136
6.6 Option counter ... 138
6.6.1 Installation method for the Key Counter ... 138

Adjustment/Setting

7. How to use the adjustment section ... 141
8. Utility Mode ... 142
8.1 Touch Panel Adjustment ... 142
8.2 Utility Mode function tree ... 143
8.3 Utility Mode function setting procedure ... 157
8.3.1 Procedure ... 157
8.3.2 Exiting ... 157
8.3.3 Changing the setting value in Utility Mode functions ... 157
8.4 One-Touch Registration ... 158
8.4.1 Scan ... 158
8.4.2 Fax ... 159

8.4.3 User Box 160
8.5 User Setting 161
8.5.1 System Setting 161
8.5.2 Display Setting 163
8.5.3 Initial Setting 166
8.5.4 Copier Setting 166
8.5.5 Scanner Setting 168
8.5.6 Printer Setting 169
8.6 Administrator Setting 173
8.6.1 System Setting 173
8.6.2 Administrator/Machine Setting 191
8.6.3 One-Touch Registration 191
8.6.4 User Authentication/Account Track 195
8.6.5 Network Setting 198
8.6.6 Copier Setting 213
8.6.7 Printer Setting 214
8.6.8 Fax Setting 215
8.6.9 System Connection 222
8.6.10 Security Setting 223
9. Adjustment item list 226
10. Service Mode 228
10.1 Service Mode function setting procedure 228
10.2 Service Mode function tree 229
10.3 Date/Time Input mode 232
10.3.1 Date & Time Setting mode screen 232
10.4 Machine 233
10.4.1 Fusing Temperature 233
10.4.2 Fusing Transport Speed 234
10.4.3 Org. Size Detecting Sensor Adj. 234
10.4.4 Printer Area 235
10.4.5 Scan Area 238
10.4.6 Printer Resist Loop 241
10.4.7 Color Registration Adjustment 242
10.4.8 Fusing Loop Size 243
10.4.9 Manual Bypass Tray Adjustment 243
10.4.10 Lead Edge Erase Adjustment 243
10.5 Firmware Version 243
10.6 Imaging Process Adjustment 244

10.6.1 Gradation Adjust 244
10.6.2 D Max Density 245
10.6.3 Background Voltage Margin 246
10.6.4 Transfer Output Fine Adjustment 246
10.6.5 Stabilizer 247
10.6.6 Thick Paper Density Adjustment 248
10.6.7 TCR Toner Supply 248
10.6.8 Monochrome Density Adjustment 249
10.6.9 Dev. Bias Choice 249
10.7 CS Remote Care 250
10.7.1 Outlines 250
10.7.2 Setting Up the CS Remote Care 250
10.7.3 Software SW setting for CS Remote Care 252
10.7.4 Setup confirmation 257
10.7.5 Calling the Maintenance 257
10.7.6 Calling the Center from the Administrator 258
10.7.7 Checking the transmission log 258
10.7.8 Detail on settings 258
10.7.9 List of the CS Remote Care error code 261
10.7.10 Troubleshooting for CS Remote Care 264
10.8 System 1 265
10.8.1 Marketing Area 265
10.8.2 Tel/Fax Number 265
10.8.3 Serial Number 265
10.8.4 No Sleep 266
10.8.5 Original Size Detection 266
10.8.6 Foolscap Size Setting 266
10.8.7 Initialization 267
10.8.8 Install Date 267
10.9 System 2 267
10.9.1 HDD 267
10.9.2 Image Controller Setting 268
10.9.3 Option Board Status 268
10.9.4 Consumable Life Reminder 268
10.9.5 Unit Change 269
10.9.6 Software Switch Setting 269
10.9.7 Scan Caribration 269
10.9.8 LCT Paper Size Setting 269

10.9.9 Line Mag Setting 270
10.9.10 Data Capture 271
10.10 Counter 274
10.10.1 Procedure 274
10.10.2 Life 274
10.10.3 Jam 275
10.10.4 Service Call Counter 275
10.10.5 Warning 275
10.10.6 Maintenance 275
10.10.7 Service Total 276
10.10.8 Counter of Each Mode 276
10.10.9 Service Call History (Data) 276
10.10.10 ADF Paper Pages 276
10.10.11 Paper Jam History 276
10.10.12 Fax Connection Error 276
10.11 List Output 277
10.11.1 Machine Management List 277
10.11.2 Adjustment List 277
10.11.3 Parameter List 277
10.11.4 Service Parameter 277
10.11.5 Protocol Trace 277
10.11.6 Fax Setting List 277
10.12 State Confirmation 278
10.12.1 Sensor Check 278
10.12.2 Table Number 286
10.12.3 Level History1 287
10.12.4 Level History2 287
10.12.5 Temp. & Humidity 287
10.12.6 CCD Check 287
10.12.7 Memory/HDD Adj. 288
10.12.8 Memory/HDD State 290
10.12.9 Color Regist 290
10.12.10 IU Lot No. 290
10.12.11 Adjustment Data List 290
10.13 Test Mode 291
10.13.1 Procedure for Test Pattern Output 291
10.13.2 Gradation Pattern 291
10.13.3 Halftone Pattern 292

10.13.4 Lattice Pattern ... 292
10.13.5 Solid Pattern ... 293
10.13.6 Color Sample ... 293
10.13.7 8 Color Solid Pattern ... 294
10.13.8 Running Mode ... 294
10.13.9 Fax Test ... 294
10.14 ADF ... 294
10.15 FAX ... 294
10.16 Finisher ... 295
11. Enhanced Security ... 296
11.1 Enhanced Security Function Setting Procedure ... 296
11.1.1 Procedure ... 296
11.1.2 Exiting ... 296
11.2 Enhanced Security Function Tree ... 296
11.3 Settings in the Enhanced Security ... 297
11.3.1 CE Password ... 297
11.3.2 Administrator Password ... 297
11.3.3 Administrator Feature Level ... 298
11.3.4 CE Authentication ... 298
11.3.5 IU Life Stop Setting ... 298
12. Billing Setting ... 299
12.1 Billing Setting Function Setting Procedure ... 299
12.1.1 Procedure ... 299
12.1.2 Exiting ... 299
12.2 Billing Setting Function Tree ... 299
12.3 Settings in the Billing Setting ... 300
12.3.1 Counter Setting ... 300
12.3.2 Management Function Choice ... 301
12.3.3 Coverage Rate Clear ... 301
13. Procedure for Resetting ... 302
13.1 Trouble resetting ... 302
13.2 Contents to be cleared by Reset function ... 302
14. Mechanical adjustment ... 303
14.1 Mechanical adjustment of the scanner section ... 303
14.1.1 Adjustment of the Scanner Motor Belt ... 303
14.1.2 Focus Positioning of the Scanner and Mirrors Unit ... 305
14.2 Scanner Position Adjustment ... 306
14.3 Mechanical adjustment of the bypass tray section ... 307
14.3.1 Adjustment of the Bypass Paper Size Unit ... 307

14.4 PH Unit Mechanical Adjustment 309
14.4.1 Skew Adjustment 309

Troubleshooting

15. Jam Display 313
15.1 Misfeed Display 313
15.1.1 Misfeed Display Resetting Procedure 314
15.2 Sensor layout 315
15.3 Solution 317
15.3.1 Initial Check Items 317
15.3.2 Misfeed at Tray 1 feed section 318
15.3.3 Misfeed at 2nd Image Transfer section 319
15.3.4 Misfeed at Tray 2 feed, Tray 2 vertical transport section 320
15.3.5 Misfeed at Manual Bypass feed section 321
15.3.6 Misfeed at LCT feed and LCT vertical transport section (PC-403) 322
15.3.7 Misfeed at Tray 3 Feed and Tray 3 vertical transport section (PC-103/PC203) 323
15.3.8 Misfeed at Tray 4 Feed and Tray 4 vertical transport section (PC203) 324
15.3.9 Misfeed at Duplex transport section (AD-503) 325
15.3.10 Misfeed at Duplex Unit pre-registration section (AD-503) 326
15.3.11 Misfeed at Fusing/Exit section 327
16. Malfunction code 328
16.1 Alert code 328
16.1.1 Alert list 329
16.2 Solution 330
16.2.1 S-1: CCD clamp/gain adjustment failure 330
16.2.2 P-5: IDC Sensor (Front) failure 330
16.2.3 P-28 IDC Sensor (Back) failure 330
16.2.4 P-6: Cyan Imaging Unit failure 331
16.2.5 P-7: Magenta Imaging Unit failure 331
16.2.6 P-8: Yellow Imaging Unit failure 331
16.2.7 P-9: Black Imaging Unit failure 331
16.2.8 P-21: Color Shift Test Pattern failure 331
16.2.9 P-22: Color Shift Adjust failure 331
16.2.10 P-26: 1st image transfer ATVC (Black) failure 332
16.2.11 P-27: 2nd image transfer ATVC failure 332
16.2.12 P-29: 1st image transfer ATVC (Color) failure 332
16.2.13 P-30: Color PC Drum Sensor malfunction 332

16.2.14 P-31: Black PC Drum Sensor malfunction 333
16.3 Trouble code 334
16.3.1 Trouble code list 334
16.4 How to reset 355
16.5 Solution 356
16.5.1 C0204: Tray 2 Elevator failure 356
16.5.2 C0211: Manual Tray Rise Descent Error 356
16.5.3 C0301: Suction Fan Motor's failure to turn 357
16.5.4 C2151: 2nd Image Transfer Roller Separation 357
16.5.5 C2152: Transfer Belt Separation 358
16.5.6 C2253: Color PC Drum Motor's failure to turn 358
16.5.7 C2254: Color PC Drum Motor's turning at abnormal timing 358
16.5.8 C2255: Color Developing Motor's failure to turn 359
16.5.9 C2256: Color Developing Motor's turning at abnormal timing 359
16.5.10 C2451: Transfer Cleaner Unit New Article Release 359
16.5.11 C2551: Abnormally low toner density detected Cyan TCR Sensor 360
16.5.12 C2553: Abnormally low toner density detected Magenta TCR Sensor 360
16.5.13 C2555: Abnormally low toner density detected Yellow TCR Sensor 360
16.5.14 C2552: Abnormally high toner density detected Cyan TCR Sensor 360
16.5.15 C2554: Abnormally high toner density detected Magenta TCR Sensor 360
16.5.16 C2556: Abnormally high toner density detected Yellow TCR Sensor 360
16.5.17 C2557: Abnormally low toner density detected Black TCR Sensor 361
16.5.18 C2558: Abnormally high toner density detected Black TCR Sensor 361
16.5.19 C2559: Cyan TCR Sensor adjustment failure 362
16.5.20 C255A: Magenta TCR Sensor adjustment failure 362
16.5.21 C255B: Yellow TCR Sensor adjustment failure 362
16.5.22 C255C: Black TCR Sensor adjustment failure 362
16.5.23 C2651: Cyan Imaging Unit EEPROM access error 363
16.5.24 C2652: Magenta Imaging Unit EEPROM access error 363
16.5.25 C2653: Yellow Imaging Unit EEPROM access error 363
16.5.26 C2654: Black Imaging Unit EEPROM access error 363
16.5.27 C2A01: Cyan Toner Cartridge EEPROM access error 363
16.5.28 C2A02: Yellow Toner Cartridge EEPROM access error 363
16.5.29 C2A03: Magenta Toner Cartridge EEPROM access error 363
16.5.30 C2A04: Black Toner Cartridge EEPROM access error 363
16.5.31 C3301: Fusing Cooling Fan Motor /1's failure to turn 364
16.5.32 C3302: Fusing Cooling Fan Motor /2's failure to turn 364
16.5.33 C3451: Heat. Heater Trouble 365

16.5.34 C3452: Press. Heater Trouble 365
16.5.35 C3751: Abnormal High Temp. (Heater) 365
16.5.36 C3752: Abnormal High Temp. (Press) 365
16.5.37 C3851: Abnormal Low Temp. (Heater) 365
16.5.38 C3852: Abnormal Low Temp. (Press) 365
16.5.39 C3461: Fusing Unit New Article Release 365
16.5.40 C3A01: Paper Stuck to Fuser Heater Roller 366
16.5.41 C3A02: Paper Stuck to Fuser Pressure Roller 366
16.5.42 C4151: Polygon Motor/C failure to turn 366
16.5.43 C4152: Polygon Motor/M failure to turn 366
16.5.44 C4153: Polygon Motor/Y failure to turn 366
16.5.45 C4154: Polygon Motor/K failure to turn 366
16.5.46 C4551: Laser malfunction (Cyan) 367
16.5.47 C4552: Laser malfunction (Magenta) 367
16.5.48 C4553: Laser malfunction (Yellow) 367
16.5.49 C4554: Laser malfunction (Black) 367
16.5.50 C4705: Image Output Time Out 367
16.5.51 C4761: Compression hardware timeout 368
16.5.52 C4765: Extraction hardware timeout 368
16.5.53 C4770: JBIG0 Error 368
16.5.54 C4771: JBIG1 Error 368
16.5.55 C4772: JBIG2 Error 368
16.5.56 C4773: JBIG3 Error 368
16.5.57 C4780: Compressor 0 command buffer stop failure 368
16.5.58 C4781: Compressor 1 command buffer stop failure 368
16.5.59 C4782: Compressor 2 command buffer stop failure 368
16.5.60 C4783: Compressor 3 command buffer stop failure 368
16.5.61 C5102: Main Motor's failure to turn 368
16.5.62 C5103: Main Motor Turning at abnormal timing 369
16.5.63 C5351: Power Supply Cooling Fan Motor/1's failure to turn 369
16.5.64 C5353: Cooling Fan Motor 2's failure to turn 369
16.5.65 C5354: Ozone Ventilation Fan Motor's failure to turn 370
16.5.66 C5357: Cooling Fan Motor/1's failure to turn 370
16.5.67 C5358: Power Supply Cooling Fan Motor/2's failure to turn 370
16.5.68 C6102: Drive Home Sensor malfunction 371
16.5.69 C6103: Slider Over Run 371
16.5.70 C6301: Scanner Cooling Fan Motor's failure to turn 371

16.5.71 C6704: Image Input Time Out 372
16.5.72 C6751: CCD clamp/gain adjustment failure 372
16.5.73 C9401: Exposure Lamp's failure to turn ON 373
16.5.74 C9402: Exposure Lamp turning ON at abnormal timing 373
16.5.75 CA051: Standard Controller configuration failure 373
16.5.76 CA052:Controller hardware error 373
16.5.77 CA053: Controller start failure 373
16.5.78 CC001: Vendor connection failure 374
16.5.79 CC151: ROM contents error upon startup (MSC) 374
16.5.80 CC152: ROM contents error upon startup (Scanner) 374
16.5.81 CC153: ROM contents error upon startup (PRT) 374
16.5.82 CC154: ROM contents error upon startup (PH) 374
16.5.83 CC163: ROM contents error (PRT) 374
16.5.84 CD002: JOB RAM save error 375
16.5.85 CD004: Hard disk access error 375
16.5.86 CD005: Hard Disk Error 1 375
16.5.87 CD006: Hard Disk Error 2 375
16.5.88 CD007: Hard Disk Error 3 375
16.5.89 CD008: Hard Disk Error 4 375
16.5.90 CD009: Hard Disk Error 5 375
16.5.91 CD00A: Hard Disk Error 6 375
16.5.92 CD00B: Hard Disk Error 7 375
16.5.93 CD00C: Hard Disk Error 8 375
16.5.94 CD00D: Hard Disk Error 9 375
16.5.95 CD00E: Hard Disk Error A 375
16.5.96 CD00F: Hard disk data transfer error 375
16.5.97 CD010: Hard disk unformat 376
16.5.98 CD011: Hard disk specifications error 376
16.5.99 CD012: Encryption ASIC setting error 376
16.5.100 CD013: Encryption ASIC mounting error 376
16.5.101 CE001: Abnormal message queue 377
16.5.102 CE002: Message and Method parameter failure 377
16.5.103 CE003: Task error 377
16.5.104 CE004: Event error 377
16.5.105 CE005: Memory access error 377
16.5.106 CE006: Header access error 377
16.5.107 CE007: DIMM initialize error 377

16.5.108 CEEE1: MSC undefined malfunction occurring 377
16.5.109 CEEE2: Scanner Section undefined malfunction 377
16.5.110 CEEE3: Engine Section undefined malfunction 378
17. Power supply trouble 379
17.1 Machine is not Energized at All (PU1 Operation Check) 379
17.2 Control panel indicators do not light. 379
17.3 Fusing Heaters do not Operate 380
17.4 Power is not Supplied to Option 380
17.4.1 Power is not Supplied to ADF 380
17.4.2 Optional Paper Feed Cabinet 380
17.4.3 Power is not Supplied to Automatic Duplex Unit 381
17.4.4 Finisher 381
18. Image quality problem 382
18.1 How to read Element date 382
18.1.1 Table Number 382
18.1.2 Level History 1 383
18.1.3 Level History 2 384
18.2 How to identify problematic part 385
18.2.1 Initial Check Items 385
18.3 Solution 387
18.3.1 IR System: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines in Sub Scan Direction, and colored bands in Sub Scan Direction 387
18.3.2 Scanner System: white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, and colored bands in Main Scan Direction 388
18.3.3 Scanner System: color spots 389
18.3.4 Scanner System: fog 390
18.3.5 Scanner System: blurred image, blotchy image 391
18.3.6 Scanner System: incorrect color image registration, sync shift (lines in main scan direction) 392
18.3.7 Scanner System: moire 393
18.3.8 Scanner System: skewed image 394
18.3.9 Scanner System: distorted image 395
18.3.10 Scanner System: low image density, rough image 396
18.3.11 Scanner System: defective ACS 397
18.3.12 Scanner System: blank copy, black copy 398
18.3.13 Scanner System: abnormal image 399
18.3.14 Printer Monocolor: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines colored bands in Sub Scan Direction 400

18.3.15 Printer Monocolor: white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, colored bands in Main Scan Direction 401
18.3.16 Printer Monocolor: uneven density in sub scan direction 402
18.3.17 Printer Monocolor: uneven density in main scan direction 403
18.3.18 Printer Monocolor: low image density 404
18.3.19 Printer Monocolor: gradation reproduction failure 406
18.3.20 Printer Monocolor: foggy background 407
18.3.21 Printer Monocolor: void areas, white spots 409
18.3.22 Printer Monocolor: colored spots 410
18.3.23 Printer Monocolor: blurred image 411
18.3.24 Printer Monocolor: blank copy, black copy 412
18.3.25 Printer Monocolor: uneven image 413
18.3.26 Printer 4-Color: white lines in sub scan direction, white bands in sub scan direction, colored lines in sub scan direction, and colored bands in sub scan direction 414
18.3.27 Printer 4-Color: white lines in main scan direction, white bands in main scan direction, colored lines in main scan direction, and colored bands in main scan direction 415
18.3.28 Printer 4-Color: uneven density in sub scan direction 416
18.3.29 Printer 4-Color: uneven density in main scan direction 417
18.3.30 Printer 4-Color: low image density 418
18.3.31 Printer 4-Color: poor color reproduction 419
18.3.32 Printer 4-Color: incorrect color image registration 420
18.3.33 Printer 4-Color: void areas, white spots 421
18.3.34 Printer 4-Color: colored spots 422
18.3.35 Printer 4-Color: poor fusing performance, offset 423
18.3.36 Printer 4-Color: brush effect, blurred image 424
18.3.37 Printer 4-Color: back marking 425
18.3.38 Printer 4-Color: uneven image 426

Appendix

19. Parts layout drawing 427
19.1 Main unit 427
19.1.1 IR section 427
19.1.2 Engine section 428
19.1.3 Tray 1 432
19.1.4 Tray 2/Multiple bypass tray 433
19.2 DF-601 (Option) 434

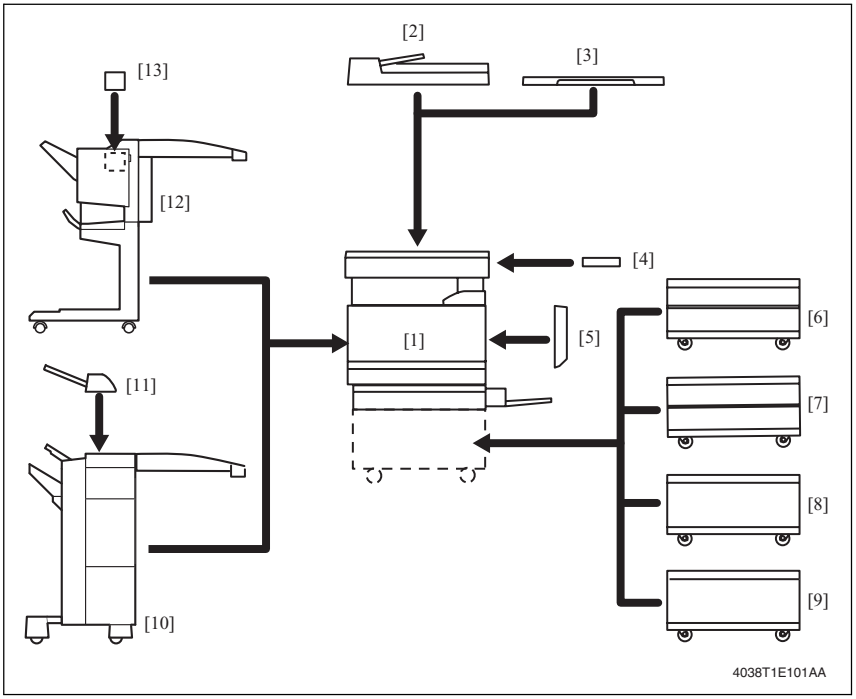
19.3 PC103/PC203 (Option) 435
19.4 PC-403 (Option) 436
19.5 AD-503 (Option) 437
19.6 FS-501 (Option) 438
19.7 JS-601 (Option) 440
19.8 FS-603 (Option) 441
19.9 PK-501 (Option) 443
19.10 Horizontal Transport Unit 444
20. Connector layout drawing 445
21. Timing chart 448
21.1 Main unit 448
21.2 Automatic Document Feeder 449

Blank Page

General

1. System configuration

1/2 System Front View

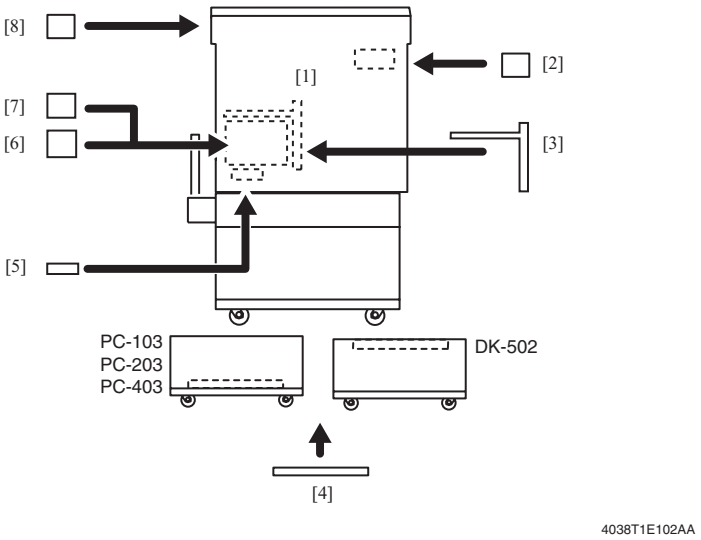


[1]	Machine	[8]	Paper Feed Cabinet PC-403
[2]	Reverse Automatic Document Feeder DF-601	[9]	Desk DK-502
[3]	Original cover OC-501	[10]	Finisher FS-501
[4]	Working Table WT-501	[11]	Job Separator JS-601
[5]	Auto Duplex Unit AD-503	[12]	Finisher FS-603
[6]	Paper Feed Cabinet PC-103	[13]	Punch Kit (for FS-603) PK-501
[7]	Paper Feed Cabinet PC-203		

NOTE

- **Use the Desk or the paper feed cabinet without fail when installing on the floor in order to keep the function and quality of the unit.**

2/2 System Rear View



[1]	Machine	[5]	Mount Kit MK-704
[2]	Vender Kit VK-501 * Only for Europe, North America, and Latin America (only 120V area)	[6]	Local Interface Kit EK-702
[3]	Mount Kit MK-706	[7]	Fax Kit FK-502 * Only for Europe, North America, Latin America and Australia
[4]	Dehumidifier Heater HT-501	[8]	Key Counter Kit KIT-1

2. Product specifications

2.1 Type

Type	Desktop-type printer integrated with scanner
Copying System	Electrostatic dry-powdered image transfer to plain paper
Printing Process	Tandem-type indirect electrostatic recording system
PC Drum Type	OPC (organic photo conductor)
Scanning Density	Equivalent to 600 dpi
Exposure Lamp	White rare-gas fluorescent lamp 30 W
Print Density	Equivalent to 600 dpi in main scanning direction × 600 dpi in sub scanning direction
Platen	Stationary (mirror scan)
Original Scanning	Scanning in main scanning direction with a CCD (one-shot reading system)
Registration	Rear left edge
Paper Feeding System (Standard) Three-way system	Multiple Bypass: 100 sheets Tray1: 250 sheets Tray2: 500 sheets
Exposure System	• Four-multi array PH unit system • Two-beam LD + polygon mirror exposure system for Y, M, C, and K (8 beams in total)
Exposure Density	Equivalent to 600 dpi in main scanning direction × 600 dpi in sub scanning direction
Developing System	HMT developing system
Charging System	DC comb electrode Scorotron system with electrode cleaning function (manual) *Electrode cleaning function is mounted only on the K imaging unit.
Image Transfer System	Intermediate transfer belt system
Paper Separating System	Selection either application of nonwoven fabric bias or resistor grounding + lower-pressure paper separate claws
Fusing System	Roller fusing

2.2 Functions

Types of Original	Sheets, books, and three-dimensional objects		
Max. Original Size	A3 or 11 × 17 (Ledger)		
Max. Original Weight	Max. 2 kg		
Multiple Copies	1 to 999		
Warm-up Time	110 sec. or less (at ambient temperature of 23° C/73.4° F and rated source voltage)		
Image Loss	Leading edge: 4.2 mm, Trailing edge (copier, printer): 4.2 mm, Trailing edge (FAX): 3 mm , Rear edge: 3 mm, Front edge: 3 mm		
First Copy Time	(Tray1, A4, full size)		
	Monochrome print	8.4 sec. or less	
	Color print	11.7 sec. or less	
System Speed	Plain Paper Monochrome/Full color	111 mm/sec	
	Thick Paper (90 to 256 g/m²), OHP, Post card, Envelope, Label sheet	55.5 mm/sec	
Copying Speed for Multi-copy Cycle (A4, 8-1/2 × 11 crosswise feeding)	Monochrome print	1-sided: 25 copies/min.; 2-sided: 23 copies/min.	
	Color print (Text Mode, Text/Photo Mode, Special Quality Mode)	1-sided: 25 copies/min.; 2-sided: 23 copies/min.	
Fixed Zoom Ratios	Full size	×1.000	
	Reduction	Metric Area:	×0.500, ×0.707, ×0.816, ×0.866
		Inch Area:	×0.500, ×0.647, ×0.733, ×0.785
	Enlargement	Metric Area:	×1.154, ×1.224, ×1.414, ×2.000
		Inch Area:	×1.214, ×1.294, ×1.545, ×2.000
	Zoom ratios memory	3 memories	
Variable Zoom Ratios	×0.250 to ×4.000	in 0.001 increments	
Copy Paper Size	Tray1, Bypass	Metric Area:	A3 to A5, B6R, A3 Wide (12.25×18), A6R, Thick Paper
		Inch Area:	11×17 to 5.5×8.5, A3 Wide (12.25×18), 4×6R, Thick Paper
	Tray2	Metric Area:	A3 to B5, A5R
		Inch Area:	11×17 to 8.5×11, 8.5×11R
Copy Exit Tray Capacity	Plain Paper	350 sheets	
	Thick Paper	20 sheets	
	OHP transparencies	1 sheet	

2.3 Types of Paper

Type		Paper Source		
		Tray1	Tray2	Multiple Bypass
Copy paper type	Plain paper (60 to 90 g/m²)	❍	❍	❍
	Translucent paper	–	–	–
	OHP transparencies (crosswise feeding only)	❍ (20 sheets or less)	–	❍ (10 sheets or less)
	Thick paper 1 (91 to 150 g/m²)		–	
	Thick paper 2 (151 to 209 g/m²)		–	
	Thick paper 3 (210 to 256 g/m²) *1		–	
	Postcards		–	
	Envelopes		–	
	Labels		–	
Copy paper dimensions	Width	90 to 311.1 mm	139.7 to 297 mm	90 to 311.1 mm
	Length	139.7 to 457.2 mm	182 to 431.8 mm	139.7 to 457.2 mm

*1: Image is not guaranteed when thick paper 3 is used.
Optional Paper Feed Cabinet : Only the Plain paper (weighing 64 to 90 g/m^2) is reliably fed.
Automatic Duplex Unit : Only the Plain paper weighing 64 to 90 g/m^2 or Thick paper weighing 91 to 256 g/m^2 are reliably fed.

2.4 Maintenance

Machine Durability	600,000 prints or 5 years, whichever is earlier	
No. of pages printed per month (Average)	Color print	1,200 prints
	Monochrome print	4,800 prints
Standard copy mode	Color print	3 pages/job
	Monochrome print	3 pages/job
Standard Original Density	Color print	C, M, Y, K 5%
	Monochrome print	K 5%

2.5 Machine Specifications

Power Requirements	Voltage:	AC 110 V, 120 V, 127 V, 220-240 V	
	Frequency:	50/60 Hz ± 3.0 Hz	
Max Power Consumption		Less than 1500 W (120 V, 12 A / 220 - 240 V, 8 A)	
Dimensions		653 *2 (W) × 755 (D) × 771 *3 (H) mm 25.7 *2 (W) × 29.8 (D) × 30.4 (H) inch	
Space Requirements		1857 (W) × 1102 (D) mm *4 73 (W) × 43.4 (D) inch *4	
Mass		Machine	Approx. 94 kg / lb (without IU and TC)
		IU and TC	8.9 kg

*2: width when the bypass tray is closed
*3: height up to where the original is placed
*4: Space Requirements are the values when the Finisher is slid to the maximum, the bypass tray is opened to the maximum, and the front door is open.

2.6 Operating Environment

Temperature	10 to 30 °C / 50 to 86° F (with a fluctuation of 10° C / 18° F or less per hour)
Humidity	15 to 85% (Relative humidity with a fluctuation of 20%/h)
Levelness	Difference between front and back, right and left should be 1 degree or under.

2.7 Print Functions

Type	Built-in printer controller	
CPU	PPC750 FX 466 MHz	
RAM	512 MB (Shared with the C250.)	
HDD	40 GB (Shared with the C250.)	
Interface	Standard: Ethernet (10 Base-T or 100 Base-TX) Option: USB 1.1, USB 2.0, or IEEE 1284	
Supported Protocols	TCP/IP, IPX/SPX, NetBEUI, AppleTalk (EtherTalk)	
Print Speed (A4, 8.5×11)	Monochrome print	1-sided: 25 pages/min; 2-sided: 23 pages/min
	Color print	1-sided: 25 pages/min; 2-sided: 23 pages/min
Printer Language	PCL5e/c Emulation PCL6 (XL Ver. 2.1) Emulation PostScript 3 Emulation (3011)	
Print Resolution	600 dpi × 600 dpi	
Printer Fonts	PCL Latin 80 Fonts Postscript 3 Emulation Latin 136 Fonts	
Supported Operating Systems	Server	Windows NT 4.0, Windows 2000, or Windows Server 2003
	Client	Windows 98 Second Edition, Windows Me, Windows 2000, Windows XP, or Windows NT 4.0 (SP6a) Mac OS 9.2 or later or Mac OS X 10.2 or 10.3

2.8 Scan Functions

Driver	KONICA MINOLTA Scanner Driver
Compatible Operating Systems	Windows 98/98SE/Me, Windows NT 4.0 (SP6 or later), Windows 2000, Windows XP
Scan Speed	25 pages/min. for both monochrome and full color (600 dpi, A4)
Scannable Range	Same as the copier (Max. A3)
Functions	Scan to E-Mail, Scan to FTP, Scan to SMB, Scan to BOX
Resolution	200/300/400/600 dpi

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

3. Periodical check

3.1 Service schedule

Guarantee period (5-year or 600,000 prints)

	Per cycle × print number	× 10,000-print										Number of times
		6	12	18	20	24	30	36	40	42	48	54	
Main Unit	Upon each call (60,000)	●	●	●		●	●	●		●	●	●	9
	120,000		●			●		●			●		4
	200,000				●				●				2
	300,000						●						1
DF-601	60,000	●	●	●		●	●	●		●	●	●	9
	200,000				●				●				2
PC-103 PC-203 PC-403	300,000						●						1
AD-503	60,000	●	●	●		●	●	●		●	●	●	9
FS-501 FS-603	300,000						●						1

3.2 Maintenance items

3.2.1 Parts to be replaced by users (CRU)

No.	Class	Parts to be replaced	Cycle	Clean	Replace	Descriptions
1	Processing sections	Imaging Unit C/M/Y	45 K		●	*3
2		Imaging Unit K	70 K		●	*3
3		Dust filter/Cooling Fan	30 K		●	*1
4		Comb electrode	When TC K is replaced	●		
5		Toner cartridge: TC (TC Y/TC M/TC C)	12 K		●	*3
6		Toner cartridge: TC (TC K)	20 K		●	*2, 3
7	Fusing section	Deodorant filter	20 K		●	*2
8	Image Transfer section	Waste Toner Box	(30 K)		●	*1, 3, 4

*1: Also replace the Dust Filter/Cooling Fan packed in the Waste Toner Box at the same time when the Waste Toner Box is replaced.

*2: Also replace the Deodorant Filter packed in the Toner Cartridge K at the same time when 20 K is reached.

*3: The parts can be replaced either by User or Customer Engineer.

☞ For details of setting, see “Unit Change” on Page 269 “Adjustment/Setting.”

*4: A waste toner full condition is detected with detecting the actual waste toner emissions.

3.2.2 Maintenance call (per 60,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper feed and image conditions		●				
2		Appearance		●	●			
3	Conveyance section	Registration Roller			●			
4	Image Transfer section	Around waste toner port			●			
5	DF-601	Pick-up Roller			●			
6		Paper Take-up Roller			●			
7		Separation Roller			●			
8		Transport Belt, Roller and Roll			●			
9	AD-503	DUP Roller and Roll			●			

3.2.3 Periodical parts replacement 1 (per 120,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper feed and image conditions		●				
2		Appearance		●	●			
3	Conveyance section	2nd Image Transfer Roller Unit5	1			●		*1
4		Dust Filter/Vertical Conveyance	1			●		
5	Image Transfer section	Image Transfer Belt Unit	1			●		
6	Processing section	Ozone Filter	1			●		
7	Fusing section	Fusing Unit	1			●		

*1: Replace those four parts at the same time.

3.2.4 Periodical parts replacement 2 (per 200,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper feed and image conditions		●				
2		Appearance		●	●			
3	Tray 1 Bypass	Feed Roller	1			●		
4		Separation Roller Assy	1			●		
5	DF-601	Pick-up Roller	2			●		
6		Feed Roller	1			●		
7		Separation Roller	1			●		

3.2.5 Periodical parts replacement 3 (per 300,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper feed and image conditions		●				
2		Appearance		●	●			
3	Tray 2	Pick-up Roller	1			●		
4		Feed Roller	1			●		
5		Separation Roller Assy	1			●		
6	PC-103 PC-203 PC-403	Pick-up Roller	1			●		Replace those three parts at the same time.
7		Feed Roller	1			●		
8		Separation Roller Assy	1			●		
9	FS-501 FS-603	Paper Feed Roller, Roll			●			
10		Transport route, Guide			●			
11		Sensor			●			

3.3 Maintenance parts

- To ensure that the machine produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- Replace with reference to the numeric values displayed on the Life counter.
- Maintenance conditions are based on the case of A4 or 8.5 × 11, Standard mode and Low Power Mode OFF.

3.3.1 Replacement parts

A. Main unit

No.	Classification	Parts name	Quantity	Actual durable cycle *1	Parts No.	Descriptions	Ref.Page in this manual
1	Tray 1	Feed Roller	1	200 K	4034 3012 xx		☞ 16
2		Separation Roller Assy	1	200 K	4034 0151 xx		☞ 16
3	Bypass	Feed Roller	1	200 K	4131 3001 xx		☞ 17
4		Separation Roller Assy	1	200 K	4034 0151 xx		☞ 19
5	Tray 2	Feed Roller	1	300 K	4030 3005 xx		☞ 22
6		Separation Roller Assy	1	300 K	4030 0151 xx		☞ 20
7		Pick-up Roller	1	300 K	4030 3005 xx		☞ 25
8	Conveyance section	2nd Image Transfer Roller Unit	1	120 K	4038 0776 00	*2	☞ 30
9		Dust Filter/ Vertical Conveyance	1	120 K	—	*2	☞ 29
10	Fusing section	Fusing Unit	1	120 K	4038 0755 00 *5 4038 0754 00 *6		☞ 38
11		Deodorant Filter	1	20 K	—	*3	☞ 29
12	Processing section	Imaging Unit Y/M/C	1	45 K	—		☞ 35
13		Imaging Unit K	1	70 K	—		☞ 35
14		Ozone Filter	1	120 K	—	*2	☞ 28
15		Toner Cartridge Y/M/C	1	12 K	—		☞ 33
16		Toner Cartridge K	1	20 K	—	*3	☞ 33
17		Dust Filter/Cooling Fan	1	30 K	—	*4	☞ 29
18	Image transfer section	Image Transfer Belt Unit	1	120 K	4038 0777 00	*2	☞ 31
19		Waste Toner Box	1	(30 K)	4065 611	*4, 7	☞ 41

*1: Actual durable cycle is the Life counter value.
*2: Also replace the 2nd Image Transfer Roller Unit, Dust Filter/Vertical Conveyance and Ozone Filter packed in the Image Transfer Belt Unit at the same time when 120 K is reached.
(Part No. of the Transfer Kit: 4038 0777 00)
*3: Also replace the Deodorant Filter packed in the Toner Cartridge K at the same time when 20 K is reached.
*4: Also replace the Dust Filter/Cooling Fan packed in the Waste Toner Box at the same time when the Waste Toner Box is replaced.
*5: 220-240 V areas only.
*6: 110 V to 120 V areas only.
*7: A waste toner full condition is detected with detecting the actual waste toner emissions.

B. Option

No.	Classification	Parts name	Quantity	Actual durable cycle *1	Parts No.	Descriptions	Ref.Page in this manual
1	DF-601	Pick-up Roller	2	200 K	4582 3022 xx	Replace those three parts at the same time.	*2
2		Feed Roller	1	200 K	4582 3014 xx		
3		Separation Roller	1	200 K	4582 3047 xx		
4	PC-103 PC-203 PC-403	Pick-up Roller	1	300 K	4030 3005 xx	Replace those three parts at the same time.	
5		Feed Roller	1	300 K	4030 3005 xx		
6		Separation Roller Assy	1	300 K	4030 0151 xx		

*1: Actual durable cycle is the Life counter value.
*2: See each Option Service Manual.

3.3.2 Cleaning parts

No.	Classification	Parts name	Actual cleaning cycle *1	Descriptions	Ref.Page in this manual
1	Processing section	Comb Electrode	When TC/K is replaced (20 K)		☞ 34
2	Conveyance section	Registration Roller	Upon each call (60 K)		☞ 27
3	Image transfer section	Area around the Waste Toner Collecting Port	Upon each call		☞ 28
4	AD-503	Conveyance Roller	Upon each call (60 K)		*1

*1: See AD-503 Service Manual.

3.4 Concept of parts life

	Description	Life value (Specification value)	Max. number of printed pages
Waste Toner Bottle	A waste toner full condition is detected when about 2,500 printed pages have been produced after a waste toner near full condition has been detected.	–	30,000 *1,2
Fusing unit	The number of copies made is counted. (The counter counts up 2 for paper whose sub scan direction exceeds 216 mm.) The number of copies made is compared with the value of the number of hours through which the Fusing Drive Motor has turned translated to a corresponding value of the number of copies made and the value, whichever reaches the life specification value, is detected. When the maximum number of printed pages is reached, the print is inhibited.	120,000	150,000 *3
Transfer Belt Unit	The number of copies made is counted. (The counter counts up 2 for paper whose sub scan direction exceeds 216 mm.) The number of copies made is compared with the value of the number of hours through which the belt has turned translated to a corresponding value of the number of copies made and the value, whichever reaches the life specifications value, is detected. (However the maximum number of copies is detected by counting hours through which the belt has turned.) When the maximum number of printed pages is reached, the print is inhibited.	120,000	151,037 *3
Imaging Unit C/M/Y	The hours which the PC drum has turned is compared with the value of the number of hours through which the Imaging roller has turned translated to a corresponding value of hours and the value, whichever reaches the life specification value, is detected. * The hours which the PC drum has turned is the value of the number of distance through which the PC drum has run translated to a corresponding value of the number of hours and the value.	6,366 M *4	6,649 M *4
Imaging Unit /K		6,637 M *4	6,827 M *4

*1: A waste toner full condition is detected with detecting the actual waste toner emissions.
*2: Once the Toner-Full is detected, it has to be replaced with the new Waste Toner Box in order to reset.
*3: The initiation of any new print cycle is inhibited when the maximum number of printed pages is reached.
*4: The mark “M” is indicated the value of the number of distance through which the PC drum has run translated to a corresponding value of the number of hours and the value.

A. Conditions for Life Specifications Values

- The life specification values represent the number of copies made or figures equivalent to it when given conditions (see the Table given below) are met. They can be more or less depending on the machine operating conditions of each individual user.

Item	Description
Job Type	Monochrome: Making 3 copies per job Color: Making 3 copies per job
Paper Size	A4
Color Ratio	Black to Color = 4:1
CV/M	Black: 2,400 / Color: 600
Original Density	B/W = 5 % for each color, 5 % for Monochrome
No. of Operating Days per Month	20 days (Main Power Switch turned ON and OFF 20 times per month)

B. Control causing inhibited printing for one part when an inhibited-printing event occurs in another part

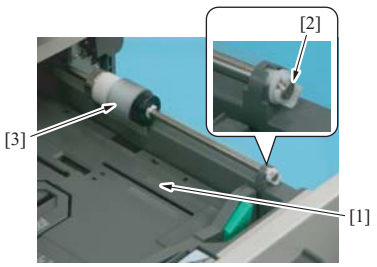
Purpose	In order to reduce the maintenance call times: when printing prohibiting is reached for any of the following parts, make printing prohibited also for other parts whose life value is reached, and replace those parts at the same time.
Target parts	Fusing unit, Image Transfer Belt Unit, Imaging Unit /C, Imaging Unit /M, Imaging Unit /Y, Imaging Unit /K

3.5 Maintenance procedure (Periodical check parts)

NOTE

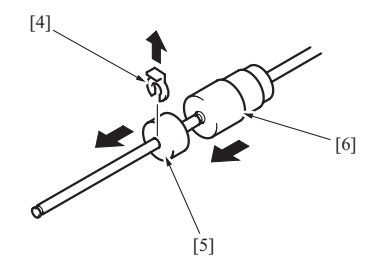
- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

3.5.1 Replacing the Tray 1 Feed Roller



4038F2C001DA

1. Slide out the Tray 1.
2. Lock the Paper Lifting Plate [1] into position.
3. Snap off the C-clip [2] from the Tray 1 Feed Roller Assy [3].
4. Remove the shaft for the Tray 1 Feed Roller Assy [3] from the front Bushing.



4037F2C003DB

5. Snap off the C-clip [4], one collar [5] and remove the Tray 1 Feed Roller [6].
6. To reinstall, reverse the order of removal.
7. Select [Service Mode]→ [Counter] → [Life] and clear the count of [1st.].

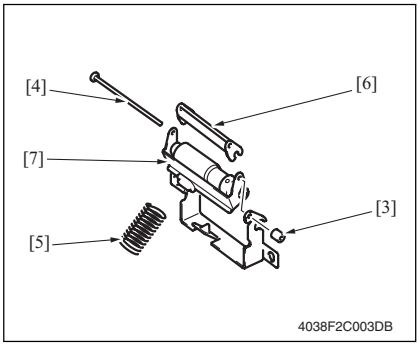
NOTE

- **Replace the Tray 1 Feed Roller and Tray 1 Separation Roller at the same time.**

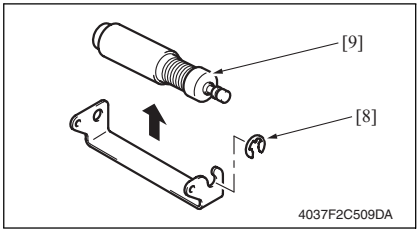
3.5.2 Replacing the Tray 1 Separation Roller Assy

4038F2C002DB

1. Slide out the Tray 1.
2. Remove two Screws [1] and the Tray 1 Separation Roller mounting bracket Assy [2].



3. Take off the rubber stopper [3], shaft [4], spring [5], and guide plate [6] to remove the Paper Separation Roller fixing bracket Assy [7].

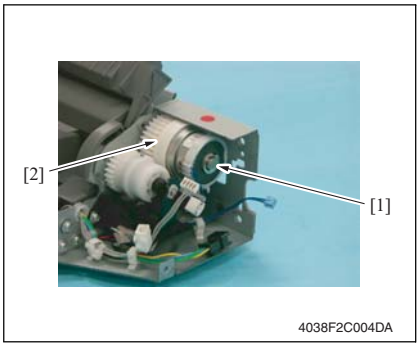


4. Snap off the E-ring [8] and the Tray 1 Paper Separation Roller Assy [9].
5. To reinstall, reverse the order of removal.
6. Select [Service Mode] → [Counter] → [Life] and clear the count of [1st.].

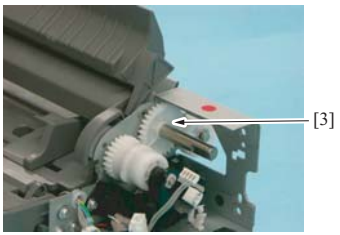
NOTE

- **Replace the Tray 1 Feed Roller and Tray 1 Separation Roller at the same time.**

3.5.3 Replacing the Bypass Tray Feed Roller

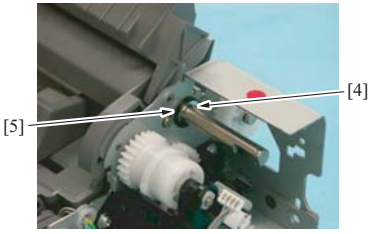


1. Remove the Multi Bypass Unit.
☞ 87
2. Snap off the E-ring [1], and remove Bypass Paper Feed Clutch [2].



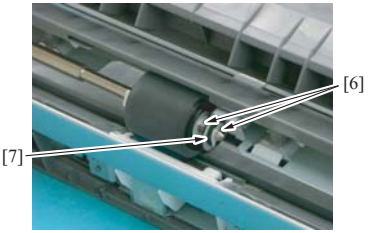
4038F2C005DA

3. Remove the Gear [3].



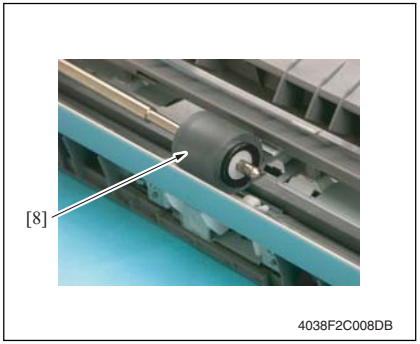
4038F2C006DB

4. Snap off the E-ring [4] and remove the Bearing [5].



4038F2C007DB

5. Snap off two C-ring [6], and remove the Bearing [7].

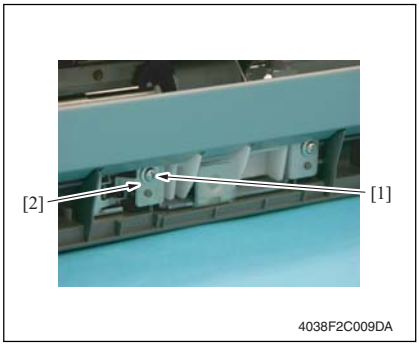


6. Remove the Bypass Tray Feed Roller [8].
7. To reinstall, reverse the order of removal.
8. Select [Service Mode] → [Counter] → [Life] and clear the count of [Manual Tray].

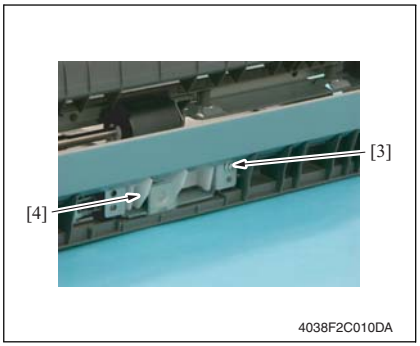
NOTE

- **Replace the Bypass Tray Feed Roller and the Bypass Separation Roller Assy at the same time.**

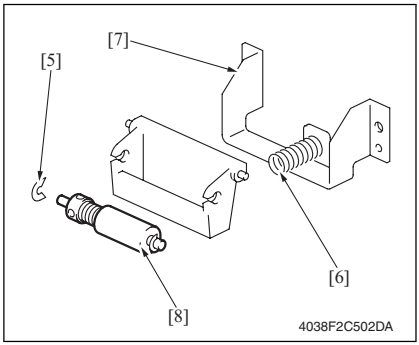
3.5.4 Replacing the Bypass Tray Separation Roller Assy



1. Remove the Multi Bypass Unit.
☞ 87
2. Remove the Screw [1], and remove the Ground terminal [2].



3. Remove the Screw [3], and remove the Bypass Paper Separation Roller Assy [4].

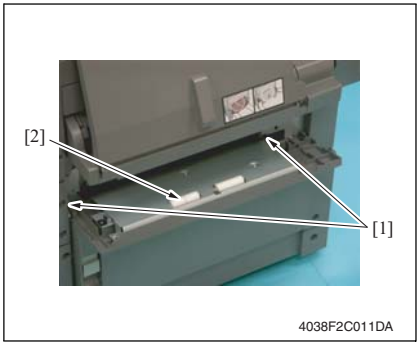


4. Snap off the C-clip [5], and remove the spring [6] and the guide plate [7]. Remove the Bypass Paper Separation Roller Assy [8].
5. To reinstall, reverse the order of removal.
6. Select [Service Mode] → [Counter] → [Life] and clear the count of [Manual Tray].

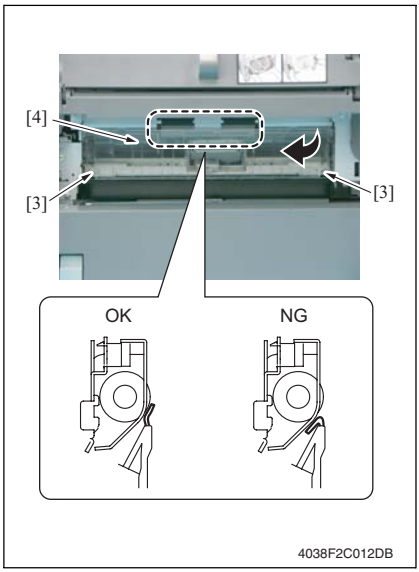
NOTE

- **Replace the Bypass Tray Feed Roller and the Bypass Separation Roller Assy at the same time.**

3.5.5 Replacing the Tray 2 Separation Roller



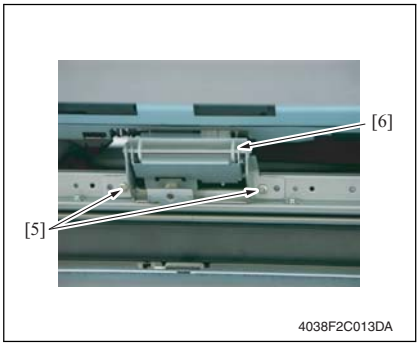
1. Slide out the Tray 2.
2. Open the Vertical transport door.
3. Remove two Claws [1], and remove the Vertical transport door [2].



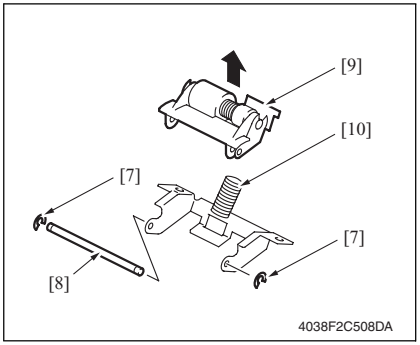
4. Remove two Screws [3], and remove the Jam processing cover [4].

NOTE

- **Make sure the position of the Mylar when installing the Jam processing cover.**



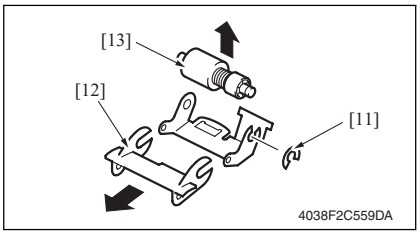
5. Remove two Screws [5] and the Tray 2 Separation Roller installation plate Assy [6].



6. Remove two C-rings [7] and the Shaft [8], and remove the Separation Roller fixing plate Assy [9].

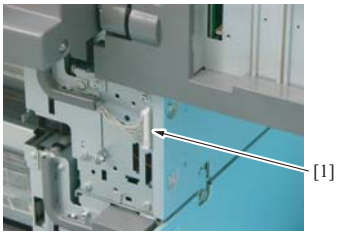
NOTE

- **Use care not to miss the Spring [10].**



7. Remove the C-ring [11] and Guide [12], and remove the Tray 2 Separation Roller Assy [13].

3.5.6 Replacing the Tray 2 Feed Roller



4038F2C014DA

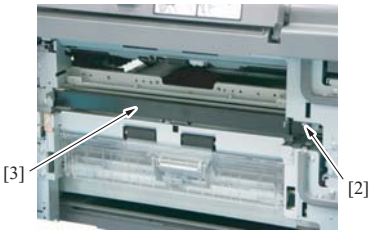
1. Remove the Tray 2 Separation Roller installation plate Assy.

☞ See the procedures 1 to 5 in page 20 “Tray 2 Separation Roller.”

2. Remove the Tray 2 Right Rear Cover.

☞ 64

3. Disconnect the Connector [1].

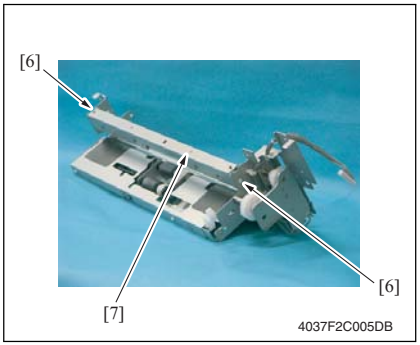


4038F2C015DA

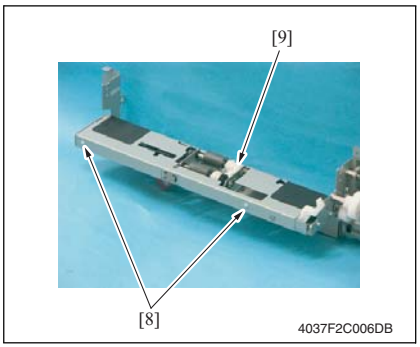
4. Remove the Screws [2] and remove the Reinforcement plate [3].

4038F2C016DA

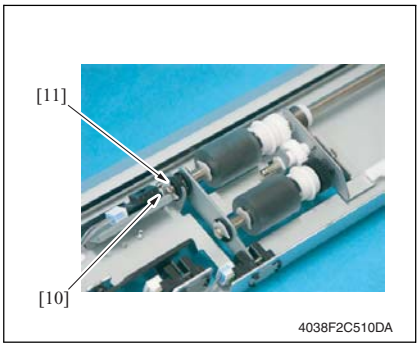
5. Remove four Screws [4] and remove the Tray 2 Feed Roller Assy [5].



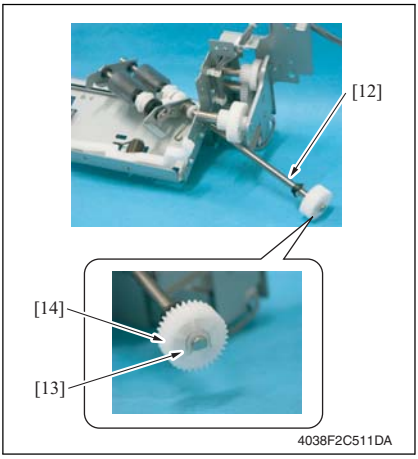
6. Remove two Screws [6] and the Installation flame [7] of the Tray 2 Separation Roller installation plate Assy.



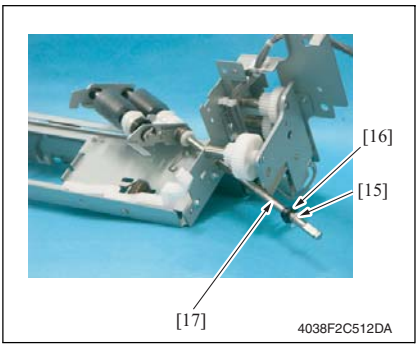
7. Remove two Screws [8] and Tray 2 Feed Roller cover [9].



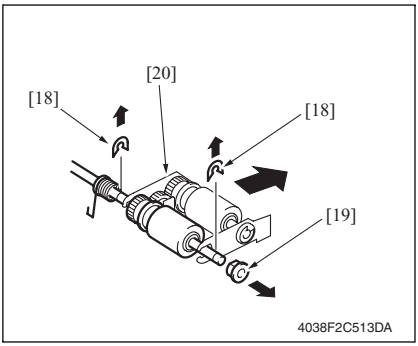
8. Remove the C-ring [10] and Bushing [11].



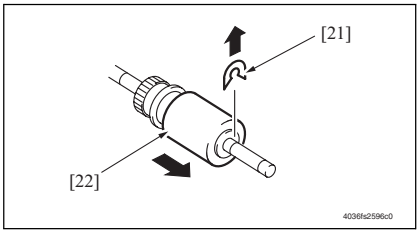
9. Remove the C-ring [13] and Gear [14] while sliding out the Shaft Assy [12] in the direction indicated in left figure.



10. Remove the C-ring [15] and Bushing [16], and remove the Shaft Assy [17].

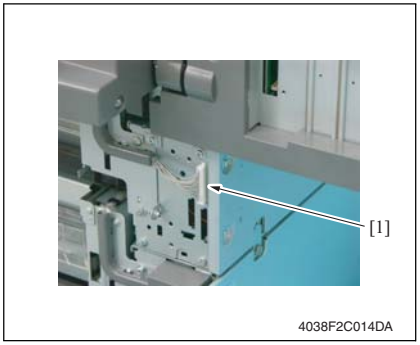


11. Remove two E-rings [18] and Bushing [19], and remove the Tray 2 Pick-up Roller fixing plate Assy [20].

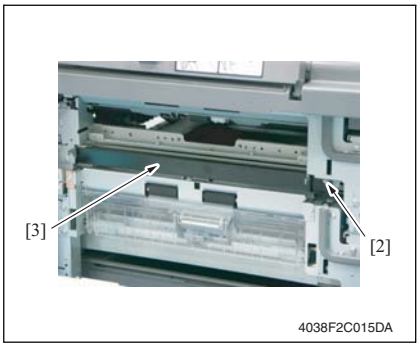


12. Remove the C-ring [21] and Tray 2 Feed Roller [22].
13. Select [Service Mode] → [Counter] → [Life] and clear the count of [2nd.].

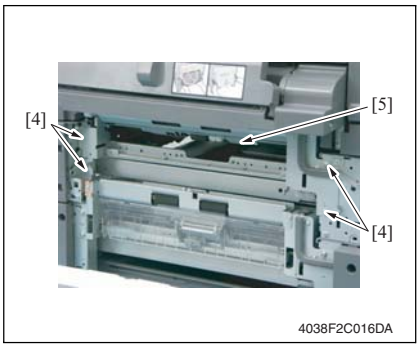
3.5.7 Replacing the Tray 2 Pick-up Roller



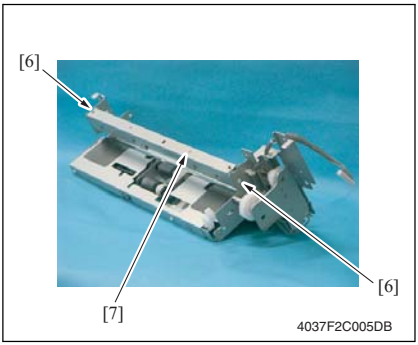
1. Remove the Tray 2 Separation Roller installation plate Assy.
☞ See the procedures 1 to 5 in page 20 “Tray 2 Separation Roller.”
2. Remove the Tray 2 Right Rear Cover.
☞ 64
3. Disconnect the Connector [1].



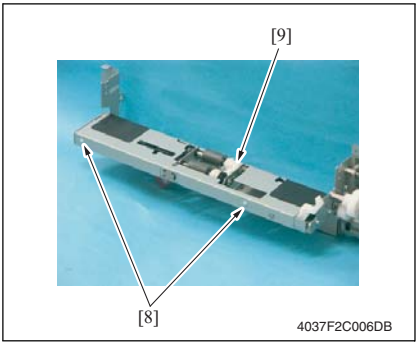
4. Remove the Screws [2] and remove the Reinforcement plate [3].



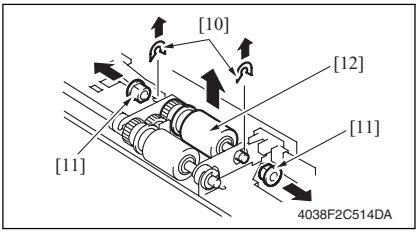
5. Remove four Screws [4] and remove the Tray 2 Feed Roller Assy [5].



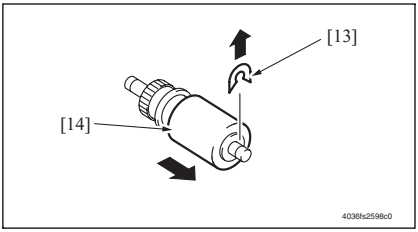
6. Remove two Screws [6], and remove the Tray 2 Separation Roller installation plate Assy [7] together with Frame.



7. Remove two Screws [8] and Tray 2 Feed Roller cover [9].



8. Remove two C-rings [10] and two Bushings [11], and remove the Tray 2 Pick-up Roller Assy [12].

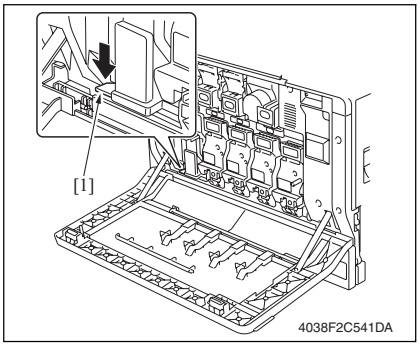


9. Snap off the C-ring [13], and remove the Tray 2 Pick-up Roller [14].

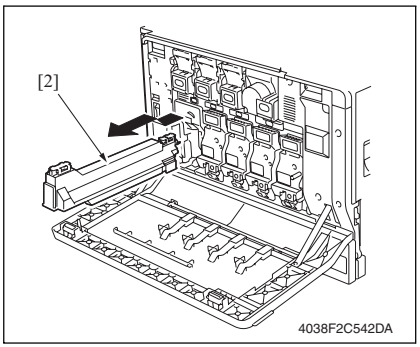
3.5.8 Cleaning of the Registration Roller

1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Registration Rollers [1] clean of dirt.

3.5.9 Replacing the Waste Toner Box



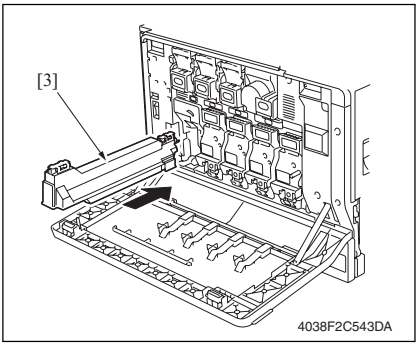
1. Open the Front Door.
2. Press the Waste Toner Box release lever [1].



3. Remove the Waste Toner Box [2].

NOTE

- **Raise the Waste Toner Box gently before removing it.**
- **If scattered toner has accumulated in the vicinity of the toner collecting port, do not tilt the Waste Toner Box when removing it.**
- **Do not leave the Waste Toner Box in a tilted condition after removing it.**

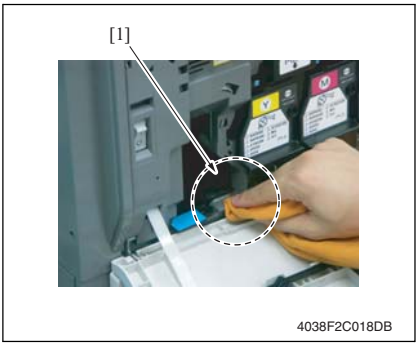


4. Clean the surface around the waste toner collecting port.
☞ 28
5. Remove the Waste Toner Box from its box, and remove the packing material.
6. Set the Waste Toner Box [3] in place.
7. Close the Front Door.

NOTE

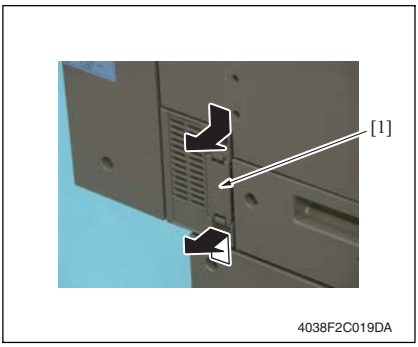
- **Replace the Dust Filter/Cooling Fan supplied with the Waste Toner Box at the same time.**

3.5.10 Cleaning of the Area around the Waste Toner Collecting Port



1. Remove the Waste Toner Box.
☞ 27
2. Wipe the areas around the Waste Toner Collecting Port [1] clean of spilled toner and dirt using a soft cloth dampened with water or alcohol.

3.5.11 Replacing the Ozone Filter

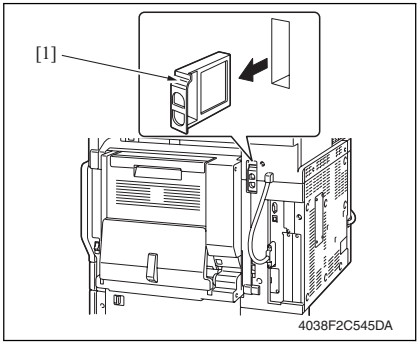


1. Holding onto the hook, remove the Ozone Filter [1].

NOTE

- **The Ozone Filter is supplied with the Transfer Belt unit.**
  Replace it when replacing the Transfer Belt Unit.

3.5.12 Replacing the Deodorant Filter

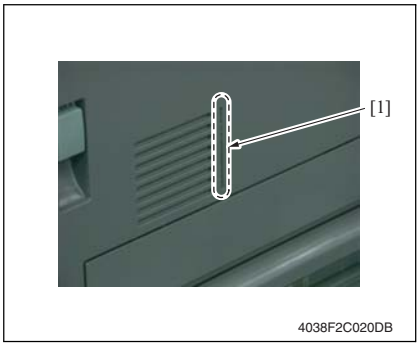


1. Holding onto the hook, take out the Deodorant Filter [1].

NOTE

- **The Deodorant Filter is supplied with the Toner Cartridge (Black). Replace it when replacing the Toner Cartridge (Black).**

3.5.13 Replacing the Dust Filter/Vertical Conveyance



1. If the optional Automatic Duplex Unit AD-503 is mounted, remove it.

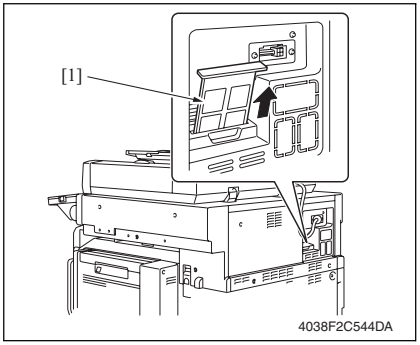
☞ See AD-503 Service Manual.

2. Remove the Dust Filter/Vertical Conveyance [1].

NOTE

- **The Dust Filter/Vertical Conveyance is supplied with the Transfer Belt Unit.**
  Replace it when replacing the Transfer Belt Unit.

3.5.14 Replacing the Dust Filter/Cooling Fan



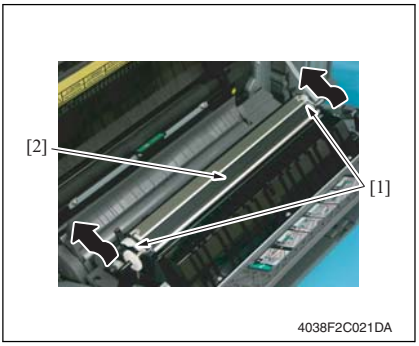
1. If the Dust Filter/Cooling Fan is contaminated by dust or foreign matter, clean it up.
2. Remove the Dust Filter/Cooling Fan [1].

NOTE

- **The Dust Filter/Cooling Fan is supplied with the Waste Toner Box. Replace it when replacing the Waste Toner Box.**

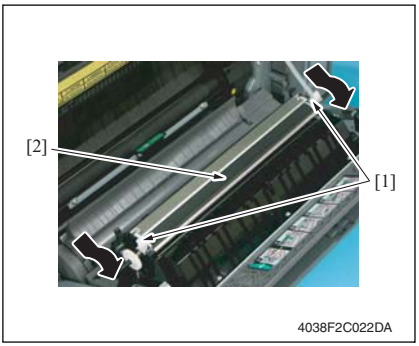
3.6 Replacing the unit

3.6.1 Replacing the 2nd Image Transfer Roller Unit



A. Removal Procedure

1. Open the Front Door and turn OFF the Main Power Switch.
2. Open the Right Door.
3. Unlock the Lock levers [1] (at two places).
4. Holding onto the Lock levers [1] (at two places), remove the 2nd Image Transfer Roller Unit [2].



B. Reinstallation Procedure

1. Holding onto the Lock levers [1] (at two places), mount the 2nd Image Transfer Roller Unit [2].
2. Lock the Lock levers [1](at two places).
3. Close the Right Door.

NOTE

- **Make sure that the door is locked in position both at front and rear.**

4. Turn ON the Main Power Switch.
5. Close the Front Door.

NOTE

- **The 2nd Image Transfer Roller Unit is supplied with the Transfer Belt Unit.**
  Replace it when replacing the Transfer Belt Unit.

3.6.2 Replacing the Image Transfer Belt Unit

A. Removal Procedure

1. Open the Front Door and turn OFF the Main Power Switch.
2. Remove the Waste toner Box

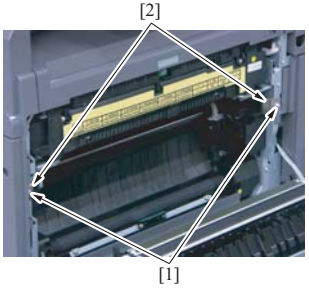
☞ 27

3. Slide out the Imaging Unit (C/M/Y/K).

☞

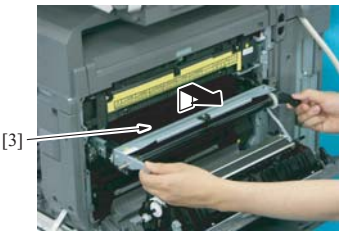
NOTE

- **After the Imaging Unit has been removed from the main unit, be sure to place it in the plastic bag (black) or wrap it in a light shielding cloth, and store it in a dark place.**
  Do not leave the Imaging Unit exposed to light for a extended period of time, as it may become damaged.



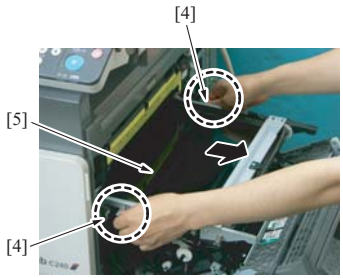
4038F2C023DA

4. Open the Right Door.
5. Remove two Screws [1] and release the Lock of the Image Transfer Belt Unit [2].



4038F2C024DA

6. Hold the both sides and lift it to take out the Image Transfer Belt Unit [3] a little.



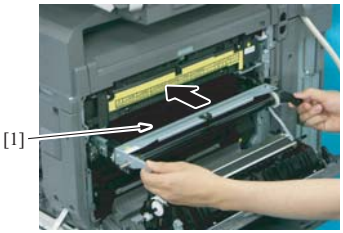
4038F2C025DA

7. Hold the position [4] as shown in the left and remove the Image Transfer Belt Unit [5].

NOTE

- **Do not touch the surface of the Image Transfer Belt Unit.**
- **Cover the Image Transfer Belt Unit with something such shade cloth to protect its surface from dust or foreign matter.**

B. Reinstallation Procedure

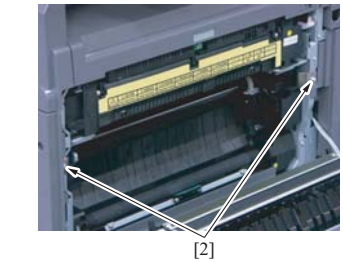


4038F2C026DA

1. Insert the Transfer Belt Unit [1].

NOTE

- **Insert the Transfer Belt Unit with care not to allow its docking gear to be damaged by hitting it against the rail or associated part.**
- **Do not touch the surface of the Image Transfer Belt Unit.**
- **Cover the Image Transfer Belt Unit with something such shade cloth to protect its surface from dust or foreign matter.**



4038F2C027DA

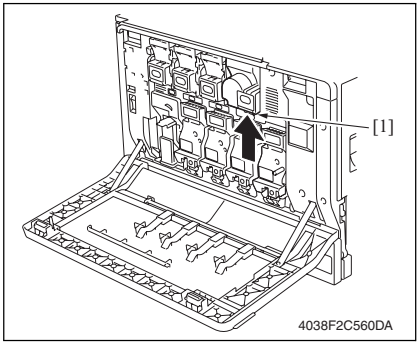
2. Install the Image Transfer Belt Unit with two Screws [2].

NOTE

- **Replace the 2nd Image Transfer Roller, the Ozone Filter and the Dust Filter/Vertical Conveyance, which are supplied with the Image Transfer Belt Unit, at the same time.**

3. Close the Right Door.
4. Reinstall the Imaging Unit and the Waste Toner Box.
5. Turn ON the Main Power Switch.
6. Close the Front Door.
7. Select [Service Mode] → [Imaging Process Adjustment] → [Gradation Adjust] and carry out Gradation Adjust.

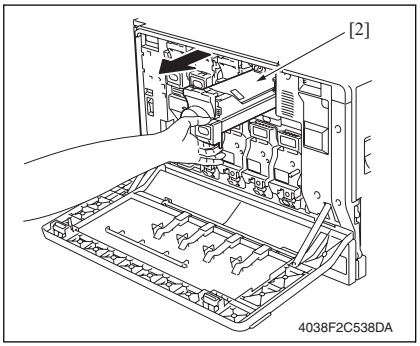
3.6.3 Replacing the Toner Cartridge (C, M, Y, K)



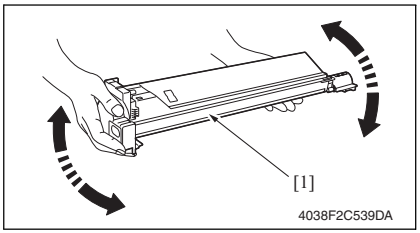
A. Removal Procedure

1. Open the Front Door.

2. Pressing the Toner Cartridge Lock Claw [1], pull it toward.

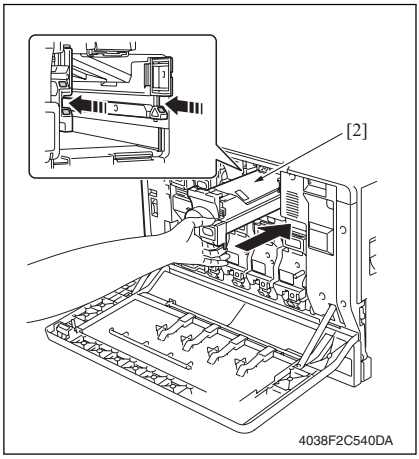


3. Pull the Toner Cartridge [2] toward to remove it.



B. Reinstallation Procedure

1. Take out the new Toner Cartridge [1] from the unitary packing box and shake it well up and down 5 to 10 times.



2. Insert the Toner Cartridge [2] by fitting it to the groove on the main unit.

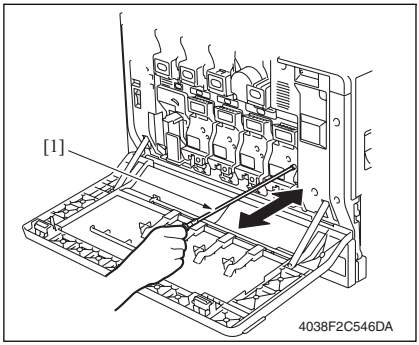
NOTE

- **Make sure the colors are matched between the Toner Cartridge and label on the machine.**
- **Make sure the Toner Cartridge is inserted all the way.**
- **When replacing the Toner Cartridge (black), replace the Deodorant Filter supplied with it at the same time.**

3. Clear the Comb Electrode.

☞ 34

3.6.4 Cleaning of the Comb Electrode



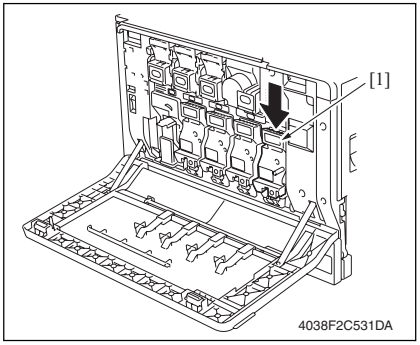
1. Open the Front Door.

2. Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever [1] In and Out several times. (Only for the Imaging Unit/K)

NOTE

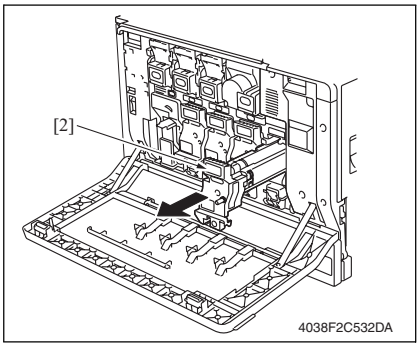
- **Move the Comb Electrode Cleaning Lever slowly forward and backward until it stops.**

3.6.5 Replacing the Imaging Unit (C, M, Y, K)

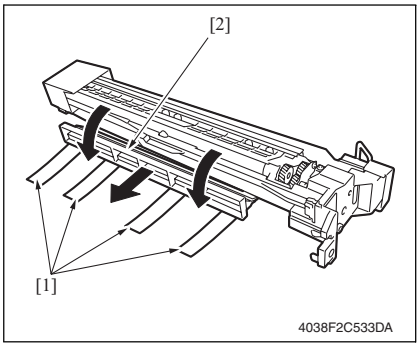


A. Removal Procedure

1. Open the Front Door and turn OFF the Main Power Switch.
2. Unplug the power cord.
3. Press the unlocking knob [1] of Imaging Unit.



4. Pull out the Imaging Unit [2], and remove it from main body.

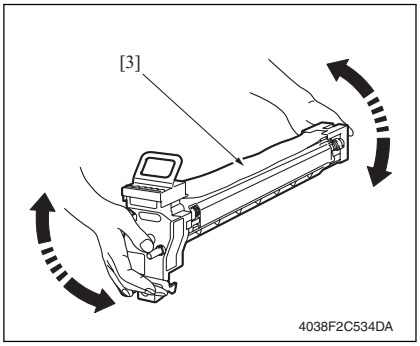


B. Reinstallation Procedure

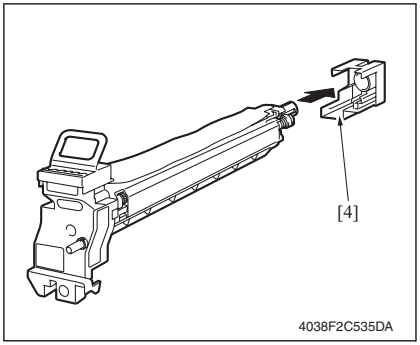
1. Remove the Imaging Unit from its plastic bag.
2. Peel off the Tape [1] so that the Mounting Bracket [2] can be removed.
   Then, remove the Mounting Bracket [2].

NOTE

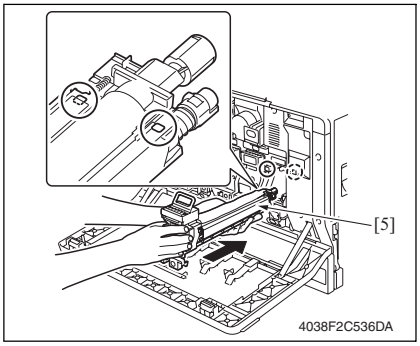
- **Since the Imaging Unit is highly susceptible to light, keep it shielded from light up to the time it is installed.**
- **Carefully unseal the plastic bag (black).**
- **If the Imaging Unit is packed in the plastic bag (black) again, seal the package using tape or another means.**



3. Tilt the Imaging Unit [3] to the left and shake it a small stroke in the tilt direction twice. Then, tilt it to the right and shake it a small stroke in the tilt direction twice.



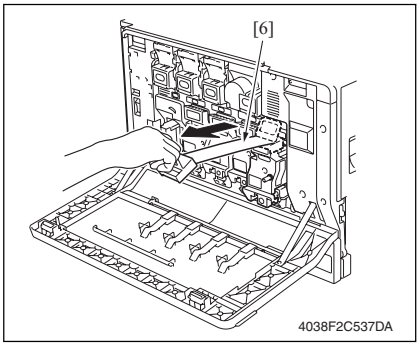
4. Remove the Caps [4] on the end of the Imaging Unit and the bottom packing material.

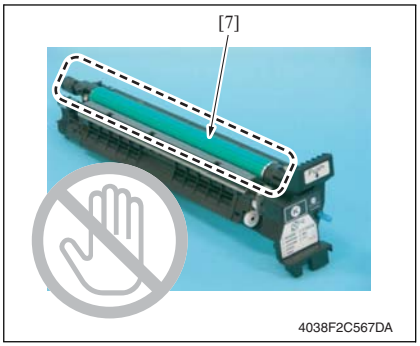


5. Keeping the Imaging Unit [5] in a level position, insert the Imaging Unit [5] into the mounting position all the way until it is stopped.

NOTE

- **Install them by fitting the blue label position of Imaging Unit and one of the machine.**
- **Do not allow the Imaging Unit to become tilted while installing them into the Main Unit, as damage to the PC Drum can result.**





6. Pull out the PC Drum protective sheet [6] while pressing the Imaging Unit.
7. Insert the Imaging Unit all the way.

NOTE

- **Make sure that the Imaging Unit is inserted all the way.**

8. Plug in the power cord.
9. Turn ON the Main Power Switch.
10. Close the Front Door.
11. Select [Service Mode] → [Imaging Process Adjustment] → [Gradation Adjust] and carry out Gradation Adjust.

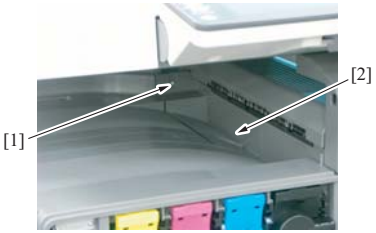
NOTE

- **When removing / installing the Imaging Unit, use care not to touch the surface of the PC Drum [7].**

3.6.6 Replacing the Fusing Unit

⚠ CAUTION

- **Before replacing the Fusing Unit, ensure that it has had time to cool down.**

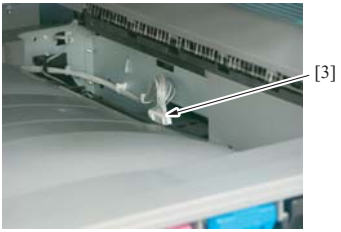


4038F2C028DA

1. Open the Front Door.
2. Turn OFF the Main Power Switch and unplug the power cord from the power outlet, then wait for about 20 minutes.
3. Remove the Sub Tray.

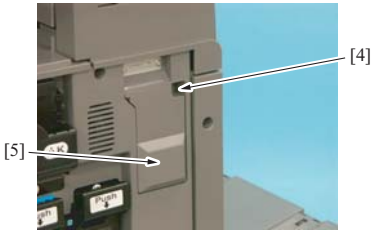
☞ 57

4. Remove the Screw [1], and remove the Exit Tray Connector protective cover [2].



4038F2C029DA

5. Disconnect the Connector [3].

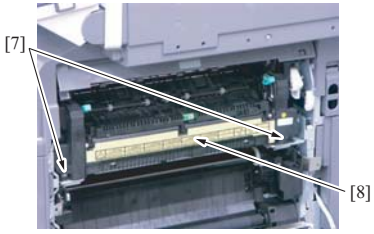


4038F2C030DA

6. Remove the Screw [4], and remove the Connector protective cover [5].

4038F2C031DA

7. Disconnect two Connectors [6].

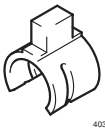
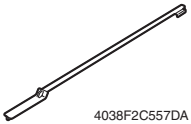
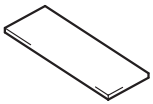


4038F2C032DA

8. Open the Right Cover.
9. Open the Fusing Unit Cover.
10. Remove two Screws [7], and remove the Fusing unit [8].

4. Service tool

4.1 CE Tool list

Tool name	Shape	Personnel	Parts No.	Remarks
Scanner Drive Cable Holding Jig	 4036fs2001c0	2	4581 7901 xx	
PH Window Cleaning Jig	 4038F2C557DA	1	4038 2083 xx	
PH Window Cleaning Jig Pad	 4038F2C558DA	1	4038 2084 xx	
Color chart	4036fs2577c0	1	—	

4.2 Copy materials

4.2.1 Imaging Unit Single Parts (IU)

Also replace the Dust filter packed in the Imaging Unit Black at the same time.

Parts name	Replacing period
IU Black	70,000 copies
IU Yellow	45,000 copies
IU Magenta	45,000 copies
IU Cyan	45,000 copies

☞ For the predetermined conditions, see page 15.

4.2.2 Toner Cartridge Single Parts (T/C)

Also replace the Deodorant filter packed in the T/C Black at the same time.

Parts name	Replacing period *1
T/C Black	20,000 copies
T/C Yellow	12,000 copies
T/C Magenta	12,000 copies
T/C Cyan	12,000 copies

*1: Life value that can be achieved with a probability of 90% even with product-to-product variations and fluctuating operating environmental conditions taken into consideration, when the T/C is used under the conditions of B/W ratio 5% for each color

4.2.3 Waste Toner Box

- Replace the Dust Filter/Cooling Fan supplied with the Waste Toner Box at the same time.

Parts name	Replacing period
Waste Toner Box	30,000 copies *1

*1: A waste toner full condition is detected with detecting the actual waste toner emissions.

☞ For the predetermined conditions, see page 15.

4.2.4 Maintenance Kit

There is no setting for the Maintenance Kit.

5. Firmware upgrade

5.1 Preparations for Firmware rewriting

5.1.1 Service environment

- OS: Windows 2000
- Drive which enables writing/reading of Compact flash
- Compact flash (with 128MB or more)

5.1.2 Application to be used

- Cygwin (Free software)

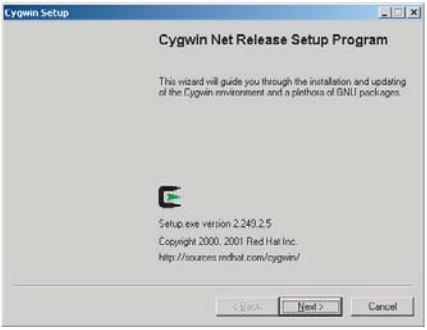
5.1.3 Installing the Cygwin

- The software for writing the Firmware into Compact flash is installed into the PC.

1. Double click the [setup.exe] on CD-ROM in which Cygwin is stored.

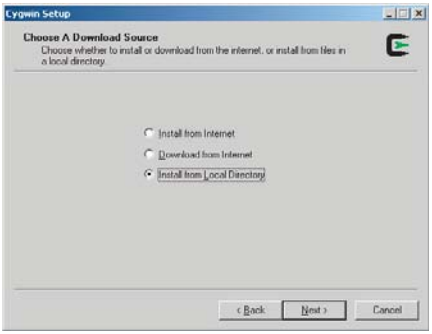
4037F2C501DA

2. Click [Next (N)].


Cygwin Setup
Cygwin Net Release Setup Program
This wizard will guide you through the installation and updating of the Cygwin environment and a plethora of GNU packages.
Setup.exe version 2.249.2.5
Copyright 2000, 2001 Red Hat Inc.
http://sources.redhat.com/cygwin/
< Back
Next >
Cancel

4037F2E545DA

3. Select “Install from Local Directory”, and click [Next (N)].


Cygwin Setup
Choose A Download Source
Choose whether to install or download from the internet, or install from files in a local directory.
Install from Internet
Download from Internet
Install from Local Directory
< Back
Next >
Cancel

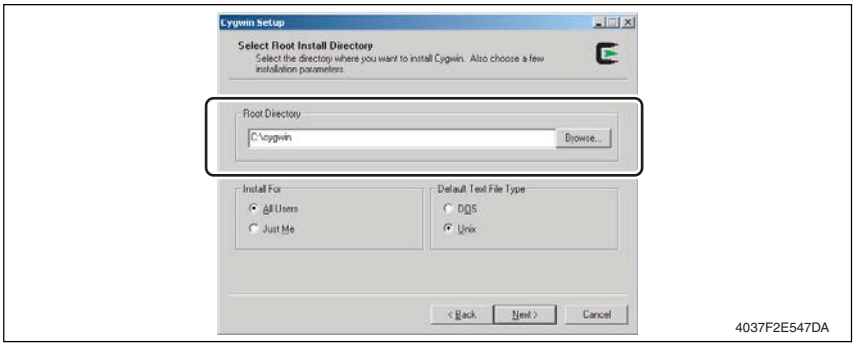
4037F2E546DA

4. Specify the folder for installation.
   Check to make sure that “Root Directory” is in default setting, [C:\cygwin].

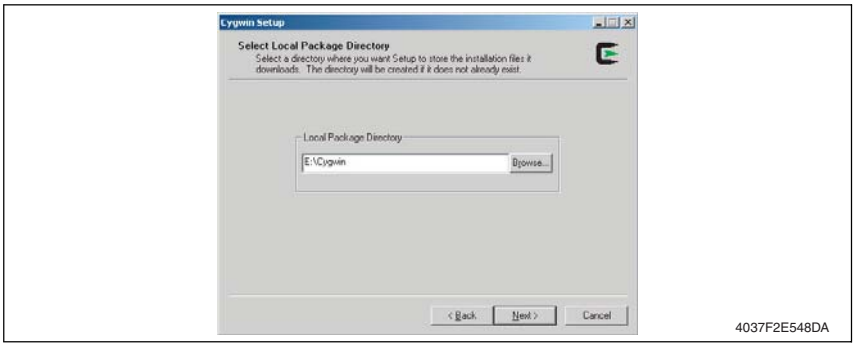
NOTE

- **Make sure to check that “Root Directory” is in default setting, [C:\cygwin].**
- **Do not change the setting value except “Root Directory.”**

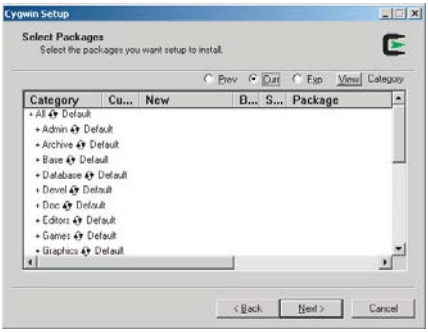
5. Click [Next (N)].



6. Specify the place of the data to be installed.
   For installing from CD-ROM, select the [cygwin] folder in CD-ROM drive.
   (Described below is the sample procedure when CD-ROM drive is E-drive.)
7. Click [Next (N)].

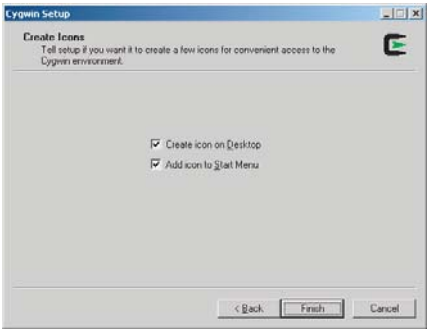

Cygwin Setup
Select Local Package Directory
Select a directory where you want Setup to store the installation files it downloads. The directory will be created if it does not already exist.
Local Package Directory
E:\Cygwin
Browse...
< Back
Next >
Cancel
4037F2E548DA

8. Click [Next (N)].



4037F2E549DA

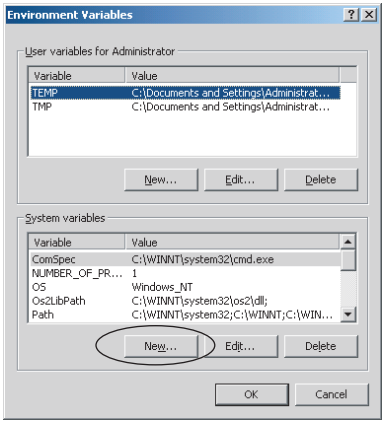
9. Click [Complete] to start installing.


Cygwin Setup
Create Icons
Tell setup if you want it to create a few icons for convenient access to the Cygwin environment.
Create icon on Desktop
Add icon to Start Menu
< Back
Finish
Cancel

4037F2E550DA

10. After installing, open the Property of “My Computer”, and click the “Environmental Variable” of “Advanced” tab.

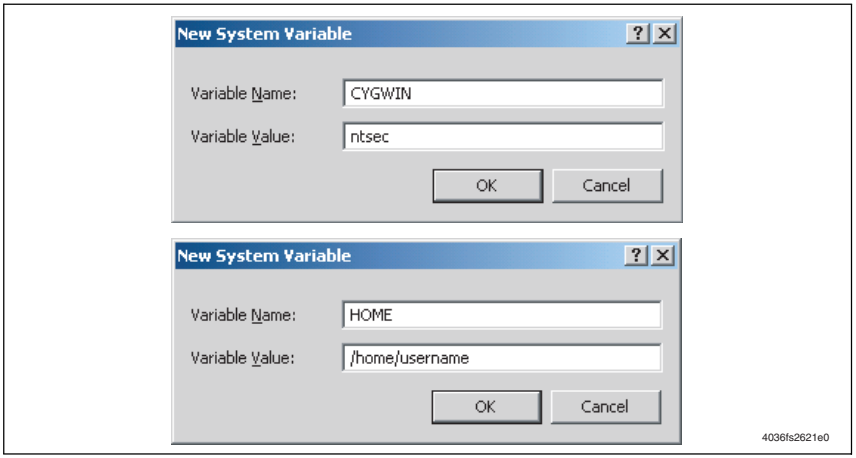
11. Click the “New” in System Variable Setting.



4036fs2620e0

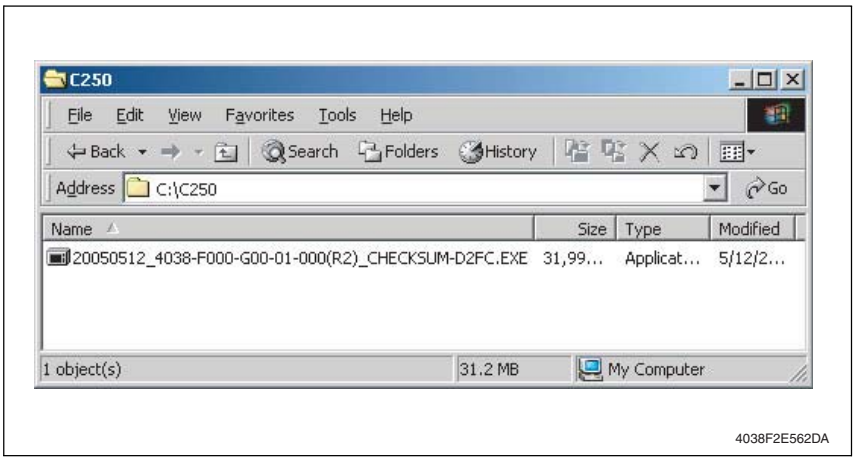
12. Set the following two values as the Windows Environmental Variable.

Variable name	Variable value
CYGWIN	ntsec
HOME	/home/username



5.1.4 Writing into the Compact flash

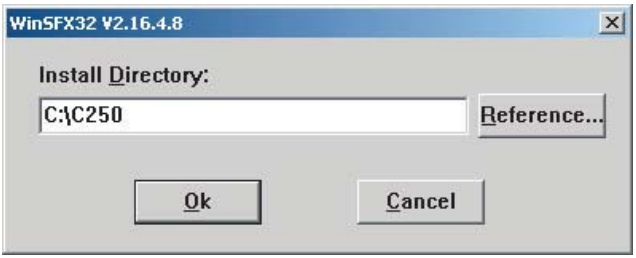
1. Put the data of Firmware in the optional directory. (C:\C250 in the below figure)



NOTE

- **The file name of Firmware data consists of the "Release Date_Version_CHECKSUM-****.exe."**

2. Double-click the Firmware data, and specify the directory to be uncompressed, and then uncompress it.

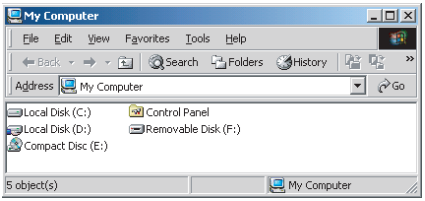


4038F2E563DA

NOTE

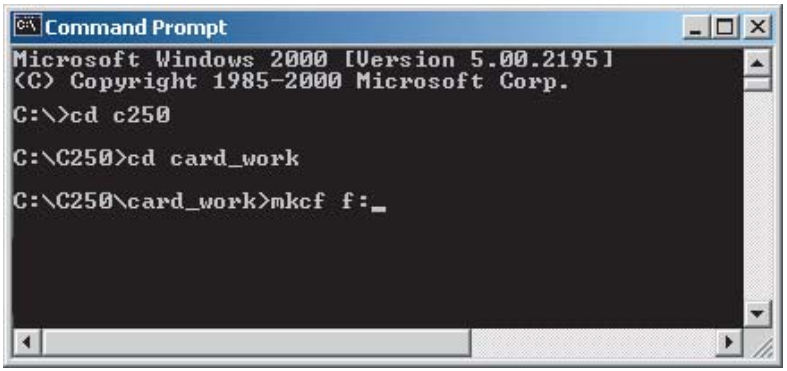
- **When old Firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

3. Mount the Compact flash on the PC, and check the Drive name, which was recognized in the Windows. (F-drive in the following figure)



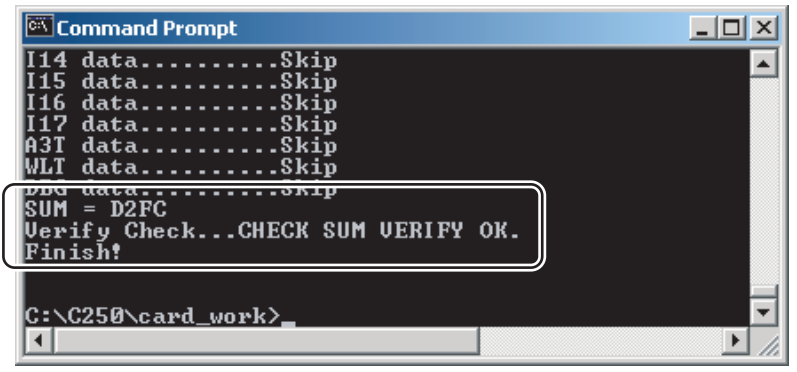
4036fs2623e0

4. Click [Start] → [Program] → [Accessories] → [Command Prompt] to open the Command Prompt.
5. Use the Command prompt to move into the uncompressed directory.
6. Specify the Drive of Compact flash, which was recognized through the procedure 3, and execute the “mksf.bat.” (Input the C: \C250\card_work>mkcf f (Drive number): in the below figure, and push the “Enter”.)



4038F2E564DA

7. Once the “mkcf.bat” is executed, data writing into the Compact flash is started.
8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERIFY OK” appears.



4038F2E565DA

9. Remove the Compact flash from PC.

NOTE

- **When removing the Compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

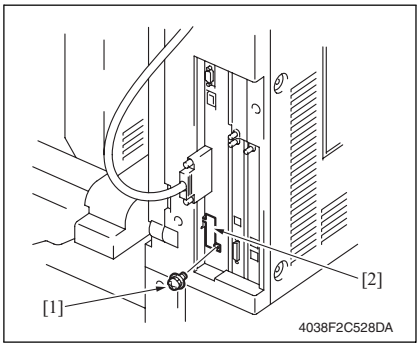
5.2 Firmware rewriting

- The F/W is updated using the Compact flash.

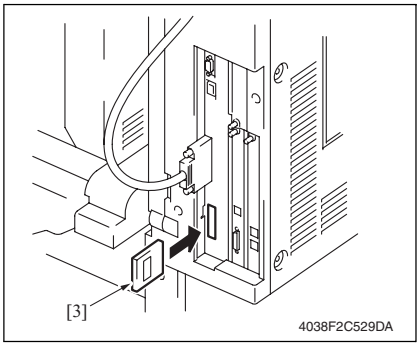
5.2.1 Updating method

NOTE

- **NEVER remove or insert the Compact Flash card with the machine power turned ON.**

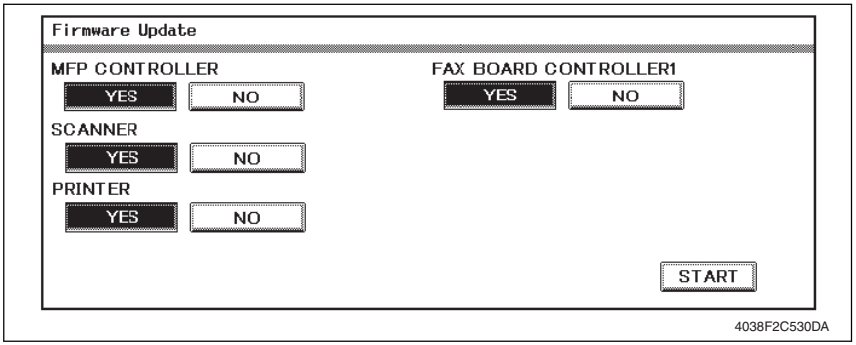


1. Open the Front Door, and turn OFF the Main Power Switch.
2. Remove the screw [1] and the Metal Blanking Plate [2].



3. Insert the Compact Flash card [3] into the slot.

4. Turn ON the Main Power Switch and the Sub Power Switch.
5. Control Panel shows up to four types of F/W to be updated.
6. Select the particular type of F/W to be updated. (Select [YES].)



F/W to be updated	Appropriate board
MFP CONTROLLER	MFP Control Board (PWB-MFP)
SCANNER	Image Processing Board (PWB-C)
PRINTER	Mechanical Control Board (PWB-M)
FAX BOARD CONTROLLER1	Fax Board *1

*1: The Optional FAX kit is necessary for the above procedure.

7. Press the [START]. (At this time, the Start key starts blinking red.)
8. Check that the Touch Panel shows the message indicating that the data has been rewritten correctly ([Downloading Completed]). Check also the Check Sum value ([Check Sum XXXX]) shown on the Touch Panel. (The Start key blinks green.)
9. Turn OFF the Main Power Switch.
10. Remove the Compact Flash card from the slot.
11. Turn ON the Main Power Switch, and close the Front Door.
12. Call the Service Mode to the screen.
13. Select [Firmware Version].
14. Make sure if the version of Firmware is updated.

5.2.2 Action When Data Transfer Fails

- If “NG” appears on the Touch Panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the Compact flash for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

MFP CONTROLLER	MFP Control Board (PWB-MFP)
SCANNER	Image Processing Board (PWB-C)
PRINTER	Mechanical Control Board (PWB-M)
FAX BOARD CONTROLLER1	Fax Board *1

*1: The Optional FAX kit is necessary for the above procedure.

6. Other

6.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in this manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

6.2 Disassembly/Assembly/Cleaning list (Other parts)

6.2.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref.Page
1	Exterior parts	IR Upper Right Cover	☞ 54
2		IR Right Cover	☞ 54
3		IR Upper Rear Cover	☞ 54
4		Left Cover	☞ 55
5		Upper Front Cover	☞ 55
6		IR Left Cover	☞ 55
7		IR Upper Front Cover	☞ 55
8		Original Glass	☞ 56
9		IR Front Cover	☞ 56
10		Exit Tray	☞ 57
11		Upper Rear Cover	☞ 57
12		Lower Rear Cover	☞ 57
13		Rear Left Cover	☞ 57
14		Multi Bypass Tray Left Cover	☞ 58
15		Multi Bypass Tray Right Cover	☞ 58
16		Multi Bypass Tray Upper Cover	☞ 58
17		Front Door	☞ 59
18		Rear Right Cover	☞ 59
19		Control Panel	☞ 60
20		Tray 1	☞ 61
21		Tray 2	☞ 62
22		Tray 2 Rear Right Cover	☞ 63
23		Tray 2 Rear Left Cover	☞ 63
24		Tray 2 Right Rear Cover	☞ 64
25		Front Cover	☞ 64
26	Board and etc.	Mechanical Control Board	☞ 66
27		DC Power Supply	☞ 69
28		Scanner Motor Drive Board	☞ 71
29		CCD Unit	☞ 71
30		Image Processing Board	☞ 73
31		Slide Interface Board	☞ 75
32		MFP Control Board	☞ 76
33		DIMM0, DIMM1	☞ 78
34		Hard Disk Drive	☞ 78
35		High Voltage Unit	☞ 80
36		Tray 1 Paper Size Board	☞ 81
37		Tray 2 Control Board	☞ 81
38		Tray 2 Paper Size Board	☞ 83
39		Inverter Board	☞ 85

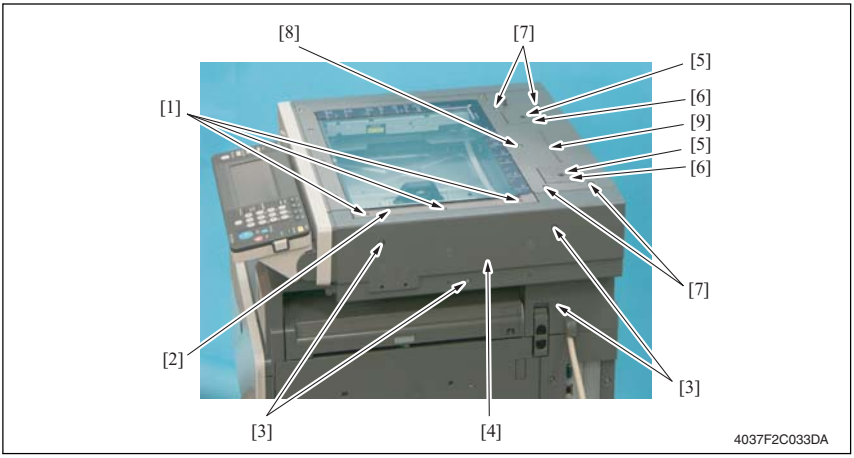
No.	Section	Part name	Ref.Page
40	Board and etc.	PH Interface Board	☞ 85
41	Unit	Multi Bypass Unit	☞ 87
42		PH Unit	☞ 89
43		Transport Drive Assy	☞ 93
44		Hopper Drive Assy	☞ 95
45		Right Door Assy	☞
46	IR	Scanner Motor	☞ 100
47		Scanner Assy	☞ 103
48		Scanner Drive Cables	☞ 104
49	Others	PWB Box	☞ 112
50		Color Developing Motor	☞ 115
51		Color PC Drum Motor	☞ 116
52		Toner Supply Motor C/K	☞ 116
53		Toner Supply Motor Y/M	☞ 116
54		Main Motor	☞ 117
55		Fusing Drive Motor	☞ 119
56		Tray 2 Lift-Up Motor	☞ 121
57		Tray 2 Paper Feed Motor	☞ 121
58		Tray 2 Vertical Transport Motor	☞ 123
59		IDC/Registration Sensor/1, IDC/Registration Sensor/2	☞ 124

6.2.2 Cleaning parts list

No.	Section	Part name	Ref.Page
1	PH	PH Window	☞ 126
2	Processing section	Image Transfer Belt Unit	☞ 127
3	Tray 1	Feed Roller	☞ 127
4		Separation Roller	☞ 127
5	Bypass	Feed Roller	☞ 128
6		Separation Roller	☞ 128
7	Tray 2	Feed Roller	☞ 129
8		Pick-up Roller	☞ 129
9		Separation Roller	☞ 131
10		Transport Roller	☞ 132
11	IR	Scanner Rail	☞ 132
12		Mirrors (1st/2nd/3rd)	☞ 133
13		Lens	☞ 134
14		Original Glass	☞ 134
15		CCD Sensor	☞ 135

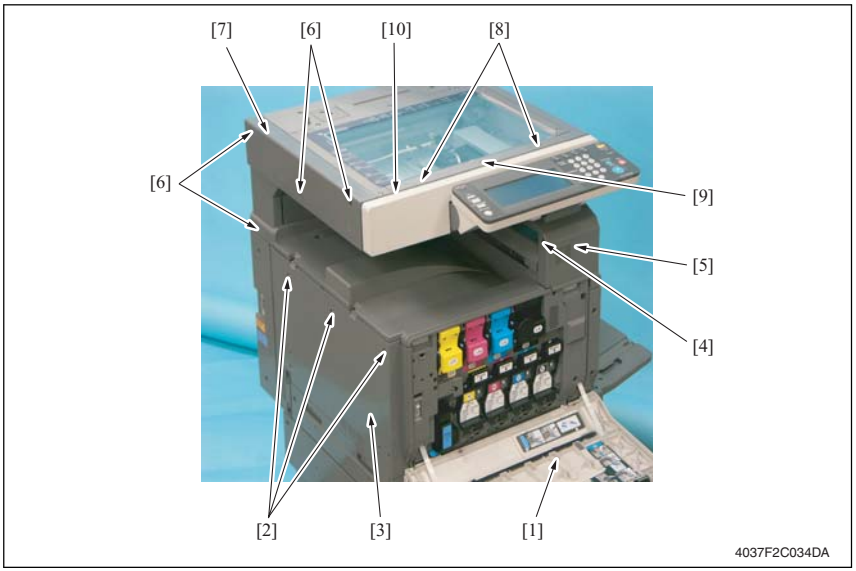
6.3 Disassembly/Assembly procedure

6.3.1 IR Upper Right Cover/IR Right Cover/IR Upper Rear Cover



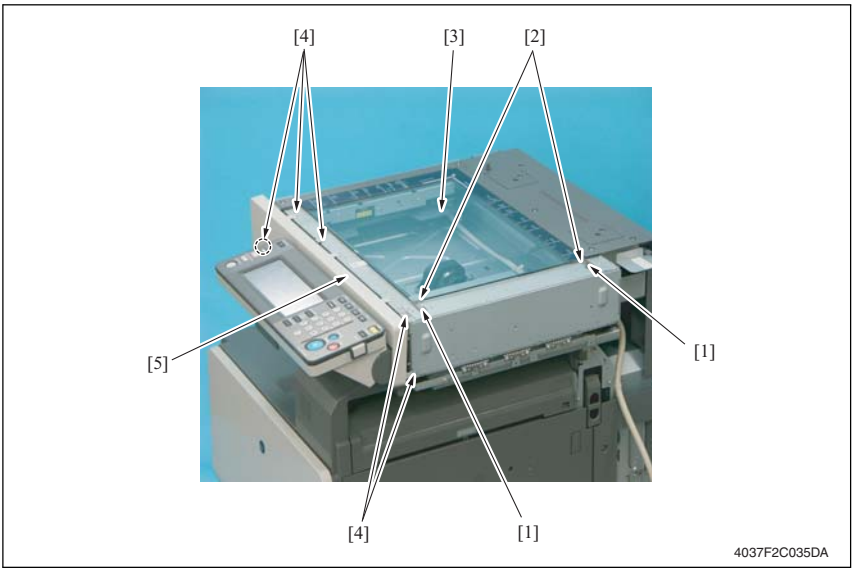
1. Remove three Screws [1], and remove the IR Upper Right Cover [2].
2. Open the Fusing Unit Cover.
3. Remove the four Screws [3], and remove the IR Right Cover [4].
4. Remove each Screw [5], and remove two Hinge Covers [6].
5. Remove four Shoulder Screws [7] and the Screw [8], and remove the IR Upper Rear Cover [9].

6.3.2 Left Cover/Upper Front Cover/IR Left Cover/IR Upper Front Cover



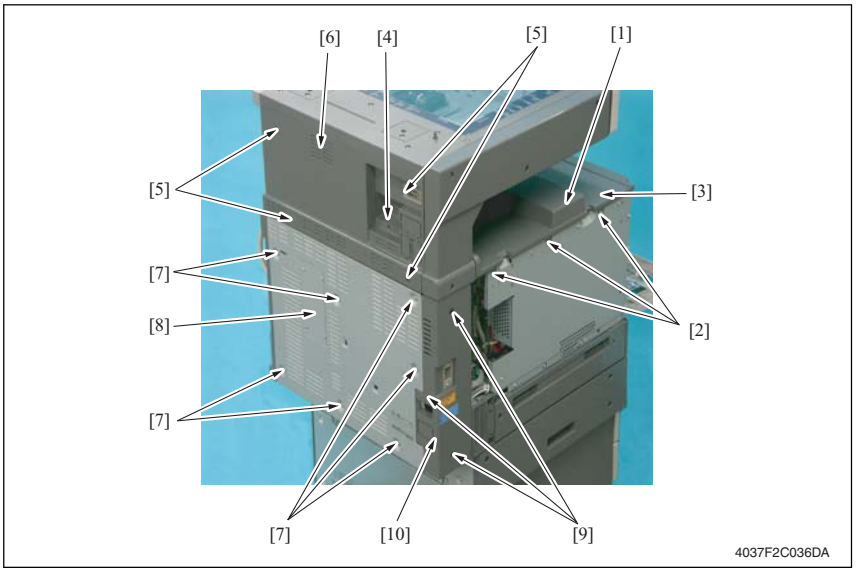
1. Open the Front Door [1].
2. Remove three Screws [2], and remove the Left Tray [3].
3. Remove the Screw [4], and remove the Upper Front Cover [5].
4. Remove four Screws [6], and remove the IR Left Cover [7].
5. Remove two Shoulder Screws [8] and the Screw [9], and remove the IR Upper Front Cover [10].

6.3.3 Original Glass/IR Front Cover



1. Remove the IR Upper Right Cover.
☞ 54
2. Remove each Screw [1], and remove the Original Glass fixing bracket (near side/inmost side) [2].
3. Remove the Original Glass [3].
4. Remove the IR Right Cover and IR Upper Front Cover.
☞ 54, 55
5. Remove the IR Left Cover.
☞ 55
6. Remove five Screws [4], and remove the IR Front Cover [5].

6.3.4 Exit Tray/Upper Rear Cover/Lower Rear Cover/Rear Left Cover

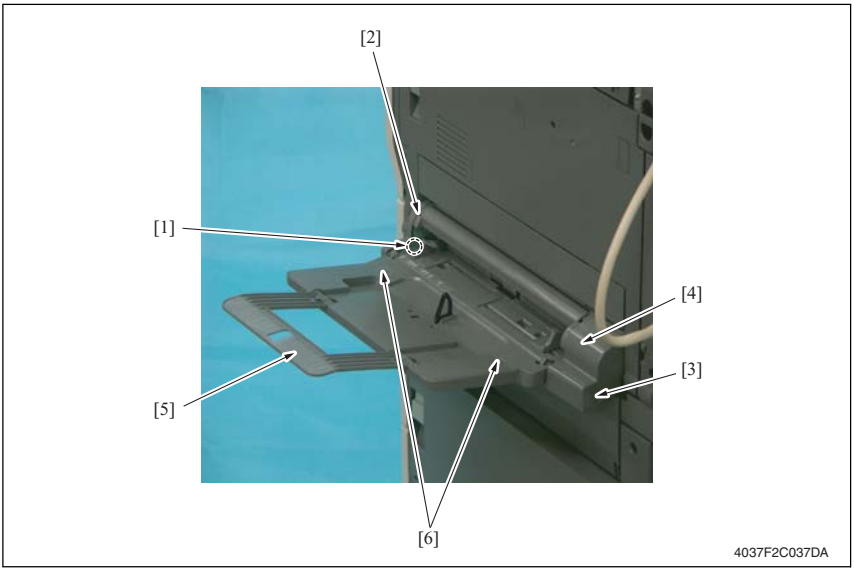


1. Remove the Left Cover.

☞ 55

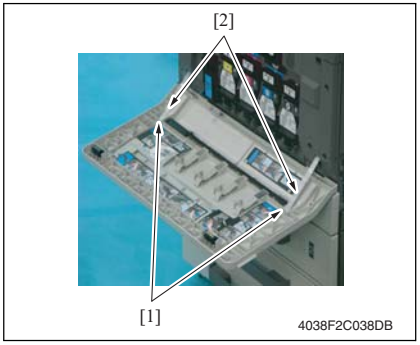
2. Remove the Sub Tray [1].
3. Remove three Screws [2], and remove the Exit Tray [3].
4. Remove the Dust Filter/Cooling Fan [4].
5. Remove four Screws [5], and remove the Upper Rear Cover [6].
6. Remove seven Screws [7], and remove the Lower Rear Cover [8].
7. Remove three Screws [9], and remove the Rear Left Cover [10].

6.3.5 Multi Bypass Tray Left Cover/Multi Bypass Tray Right Cover/Multi Bypass Tray Upper Cover

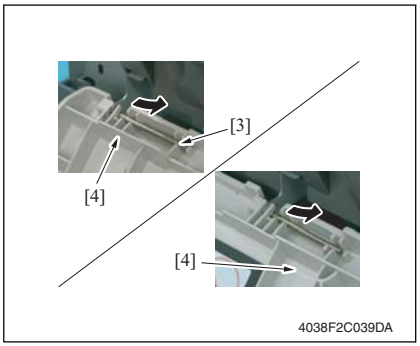


1. Unhook the tab [1], and remove the Multi Bypass Tray Left Cover [2].
2. Remove the Screws [3], and remove the Multi Bypass Tray Right Cover [4].
3. Remove the Tray Extension [5].
4. Remove two Screws [6], and remove the Multi Bypass Tray Upper Cover [7].

6.3.6 Front Door

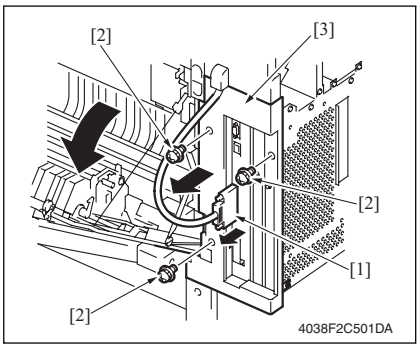


1. Open the Front Door.
2. Remove the Screw [1] each to remove the Right and Left Stoppers [2].



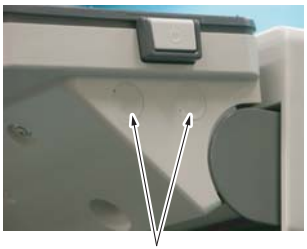
3. Pull out the Right and Left Pins [3] to remove the Front Door [4].

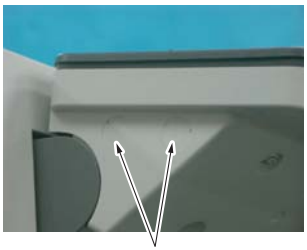
6.3.7 Rear Right Cover



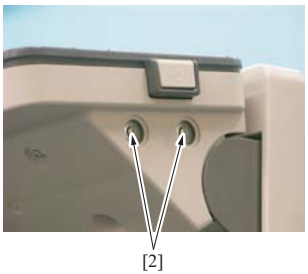
1. Disconnect the IR Connector [1].
2. Open the Right Door.
3. Remove three Screws [2], and remove the Rear Right Cover [3].

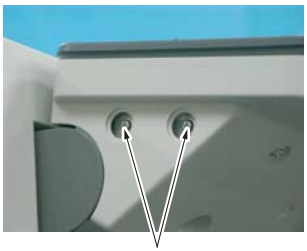
6.3.8 Control Panel (UN201)



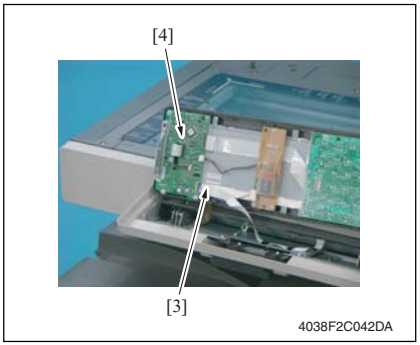


1. Remove four caps [1] at both ends of Control Panel.



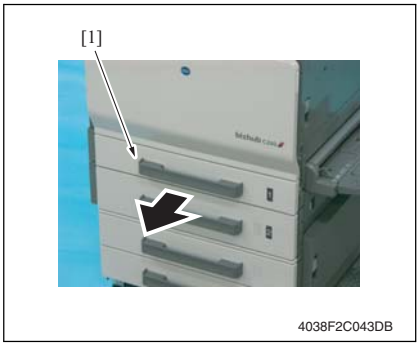


2. Remove four Screws [2].

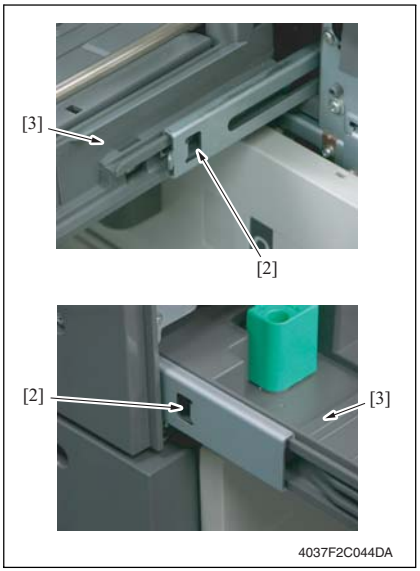


3. Remove the Flat Cable [3].
4. Remove the Control Panel [4].

6.3.9 Tray 1

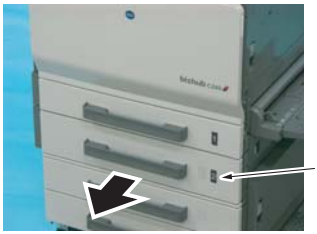


1. Slide out the Tray 1 [1].



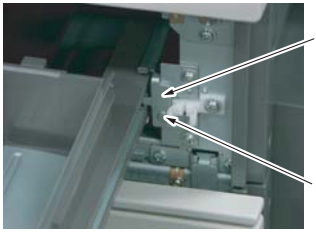
2. Slide out the Tray 1 [3] while pressing the Slide Locks [2] at both ends.

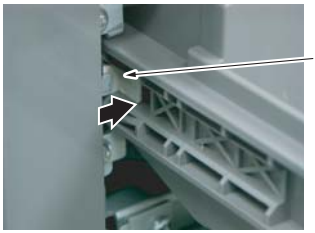
6.3.10 Tray 2



4038F2C045DB

1. Slide out the Tray 2 [1].

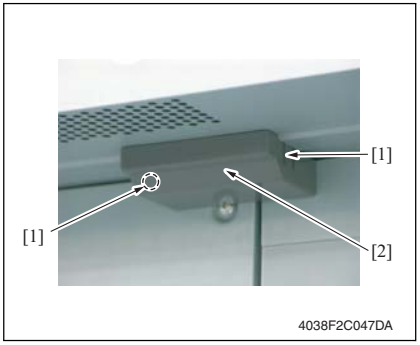




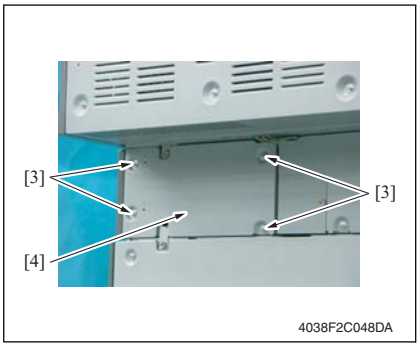
4038F2C046DB

2. Remove the Screw [2], and remove the Stopper [3].
3. Slide out the Tray 2 while pressing the Slide Locks [4].

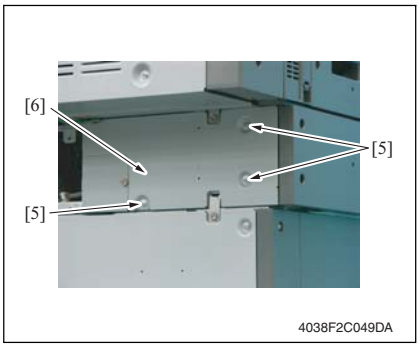
6.3.11 Tray 2 Rear Right Cover/Tray 2 Rear Left Cover



1. Unhook two tabs [1], and remove the Wiring cover [2].

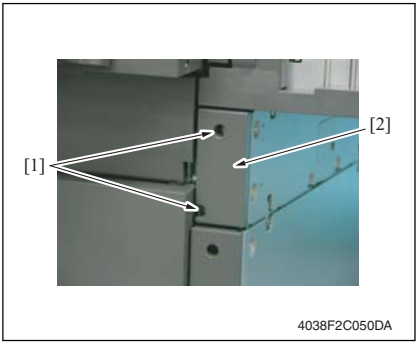


2. Remove four Screws [3], and remove the Tray 2 Rear Right Cover [4].



3. Remove three Screws [5], and remove the Tray 2 Rear Left Cover [6].

6.3.12 Tray 2 Right Rear Cover



1. Remove two Screws [1], and remove the Tray 2 Right Rear Cover [2].

6.3.13 Front Cover

1. Remove the Front Door.

☞ 59

2. Remove the Left Cover, Upper Front Cover and Exit Tray.

☞ 55, 57

3. Remove the Toner Cartridges (C, M, Y, K).

☞ 33

4. Remove the Waste Toner Box.

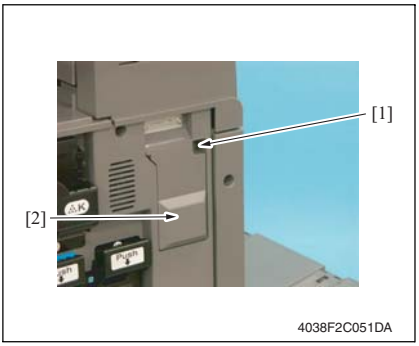
☞ 27

5. Remove the imaging Units (C, M, Y, K).

☞ 35

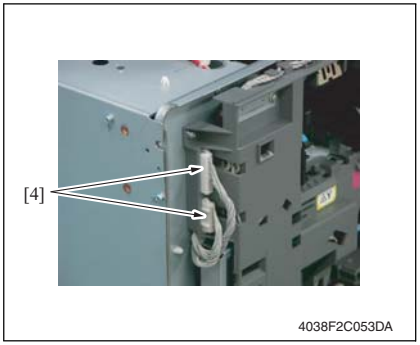
NOTE

- **After the Imaging Unit has been removed from the main unit wrap it in the light shielding cloth and store it in a dark place. DO NOT leave the Imaging Unit exposed to light for a extended period of time as it will become damaged.**

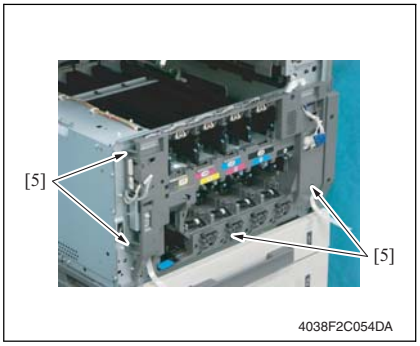


6. Remove the Screw [1], and remove the Connector protective cover [2].

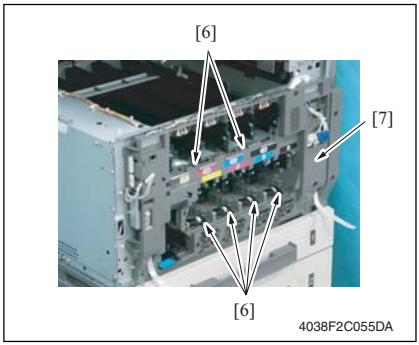
7. Disconnect two Connectors [3].



8. Disconnect two Connectors [4].



9. Remove four Screws [5].

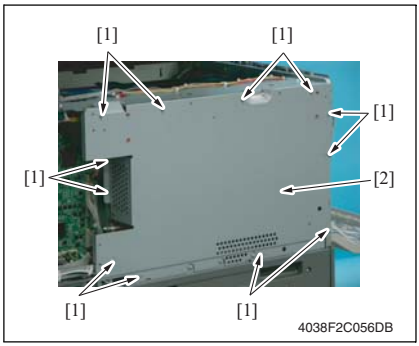


10. Unhook six tabs [6], and remove the Front Cover [7].

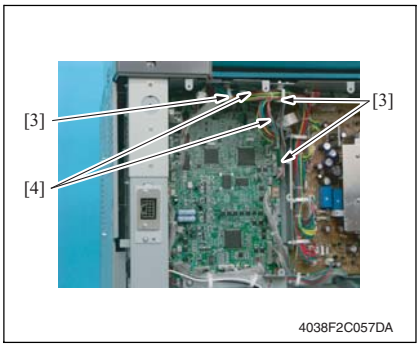
6.3.14 Mechanical Control Board (PWB-M)

NOTE

- **If a Finishing Option is installed, remove if from the main unit before trying to remove the Mechanical Control Board.**
- **When removing the Finishing Option, support the Horizontal Transport Unit with your hand to prevent if from dropping.**



1. Remove the Exit Tray.
☞ 57
2. Remove the Rear Left Cover.
☞ 57
3. Remove twelve Screws [1] to remove the protective sheet of DC Power Supply [2].

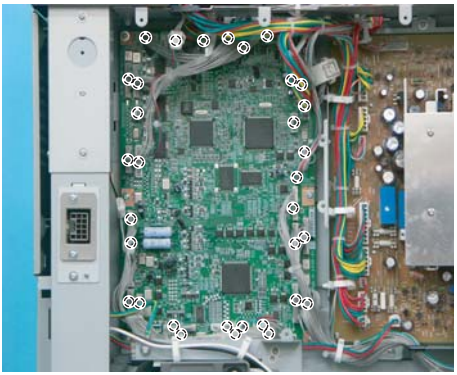


4. Remove the Harness [4] from three Wire saddles [3].

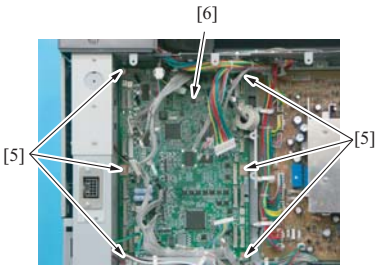
NOTE

- **When installing the Mechanical Control Board, make sure to fix the Harness at the original position with the wire saddle.**

5. Remove all the Connectors and Flat Cables on the Mechanical Control Board.



4037F2C058DB

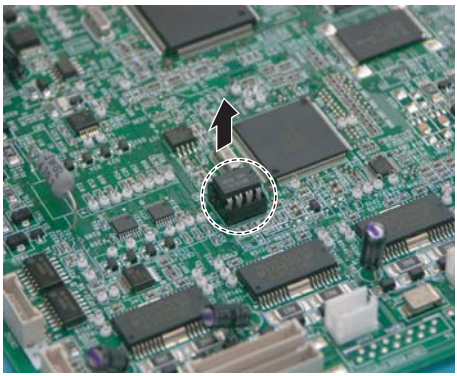


4038F2C059DA

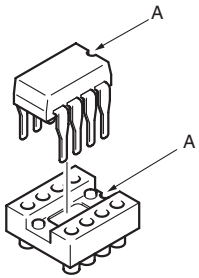
6. Remove six Screws [5], and remove the Mechanical Control Board [6].

NOTE

- **When Mechanical Control Board (PWB-M) is replaced, relocate the Parameter Chip (IC6).**
  Mount the Parameter Chip (IC6) of old Mechanical Control Board onto the new Mechanical Control Board.



4037F2C061DB



4037F2C534DA

NOTE

- **When the Parameter Chip (IC6) is mounted, precisely fit the directions of each "A."**

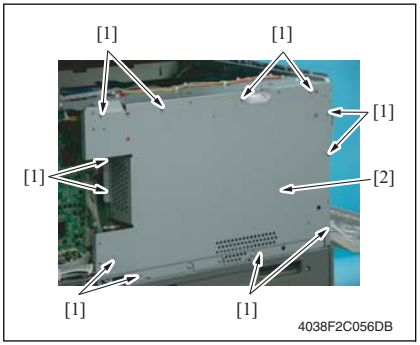
NOTE

- **When the Control Board is to be replaced, rewriting the Firmware to the latest one.**

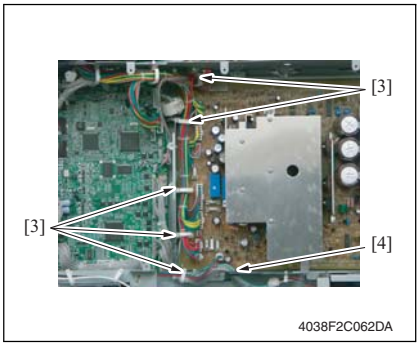
6.3.15 DC Power Supply (PU1)

NOTE

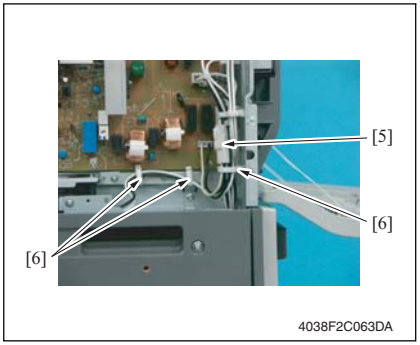
- **If a Finishing Option is installed, remove if from the main unit before trying to remove the DC Power Supply.**
- **When removing the Finishing Option, support the Horizontal Transport Unit with your hand to prevent if from dropping.**



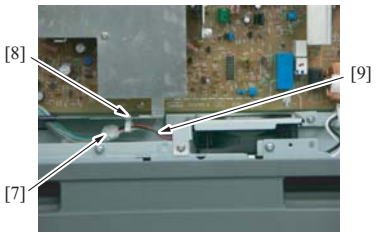
1. Remove the Exit Tray.
☞ 57
2. Remove the Rear Left Cover.
☞ 57
3. Remove twelve Screws [1] to remove the protective sheet of DC Power Supply [2].



4. Remove five Wire saddles [3] and the Edge cover [4].

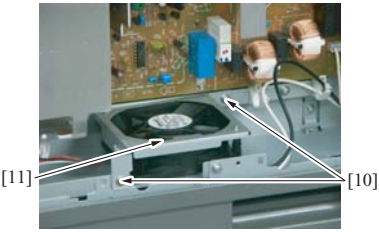


5. Disconnect the Connector [5], and remove the Harness from three Wire saddles [6].



4038F2C064DA

6. Disconnect the Connector [7], and remove the Harness [9] from the Wire saddles [8].

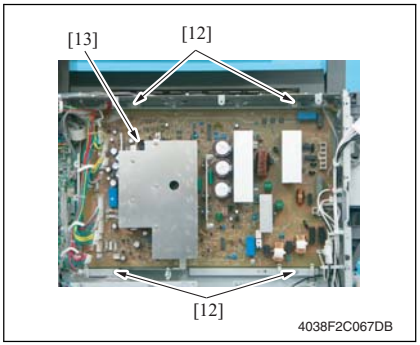


4038F2C065DA

7. Remove two Screws [10], and remove the Power Supply Cooling Fan Motor/1 [11].

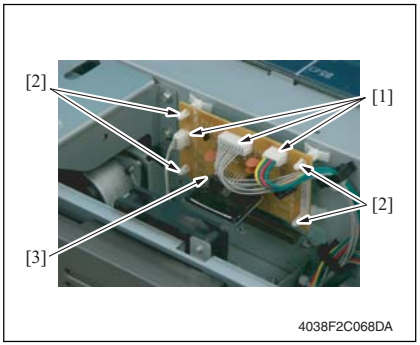
8. Remove all the Connectors on the DC Power Supply.

4037F2C066DB



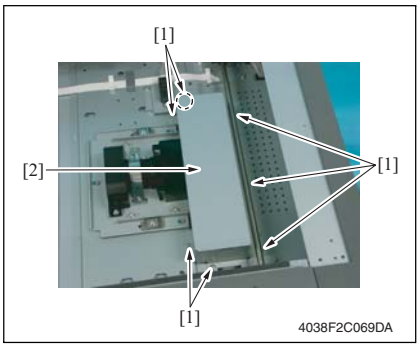
9. Remove four Screws [12], and remove the DC Power Supply [13].

6.3.16 Scanner Motor Drive Board (PWB-IC)

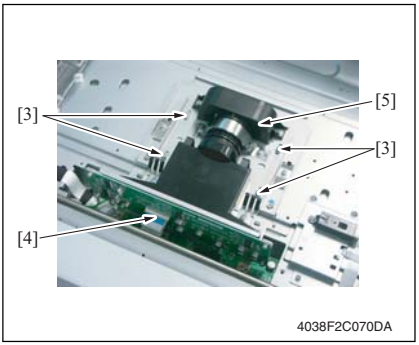


1. Remove the IR Upper Rear Cover.
☞ 54
2. Disconnect three Connectors [1] and four Board Supports [2].
3. Remove the Scanner Motor Drive Board [3].

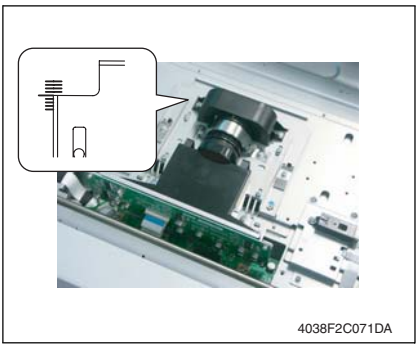
6.3.17 CCD Unit



A. Removal Procedure
1. Remove the Original Glass.
☞ 56
2. Remove seven Screws [1], and remove the CCD Unit Cover [2].



3. Remove four Screws [3] and Flat Cable [4], and remove the CCD Unit [5].



B. Reinstallation Procedure

1. Align the CCD Unit with the center of the graduations as illustrated on the left and then tighten the four screws.

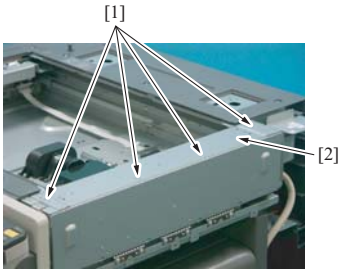
2. Reinstall the Original Glass.
3. Turn ON the Main Power Switch.
4. Close the Front Door.
5. Carry out the [Cross Direction Adjustment]. If the specifications are not met, loosen the CCD Unit mounting screws and move the CCD Unit in the sub scan direction as necessary.

☞ 240

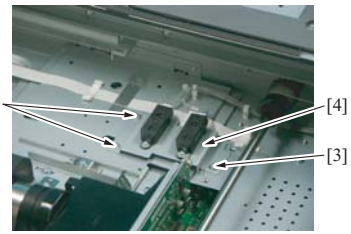
NOTE

- **Hold the CCD Unit by hand when moving it. NEVER use a screwdriver or similar tool to tap to move it, as a varied distance between the CCD sensor and lens results.**
- **When CCD unit is replaced, [Scan Calibration] and [Line Mag Setting] under [System 2] available in Service Mode should be OFF.**

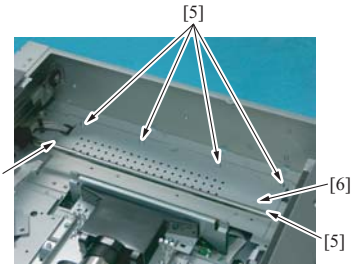
6.3.18 Image Processing Board (PWB-C)



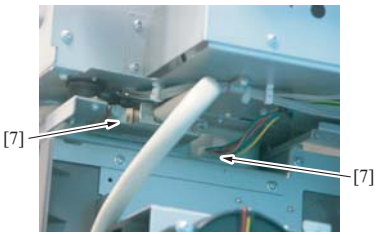
1. Remove the Upper Rear Cover and IR Right Cover.
☞ 57, 54
2. Remove the CCD Unit Cover.
☞ Refer to the step1 to 2 on page 135.
3. Remove four Screws [1], and remove the IR Frame Protective Cover [2].



4. Remove three Screws [3], and remove the Original Size Detecting Sensor Assy [4].

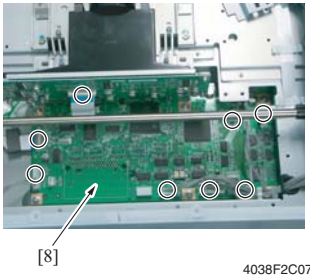


5. Remove six Screws [5], and remove the Board cover [6].



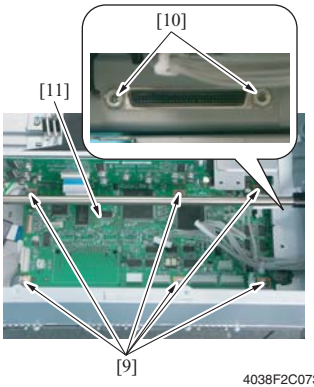
4037F2C037DA

6. Disconnect two Connectors [7].



4038F2C072DB

7. Remove all the Connectors and the Flat Cables on the Image Processing Board [8].



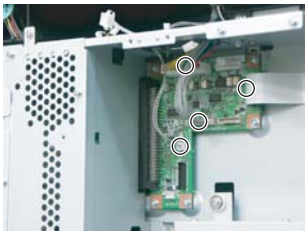
4038F2C073DB

8. Remove six Screws [9] and two Bolts [10], and remove the Image Processing Board [11].

NOTE

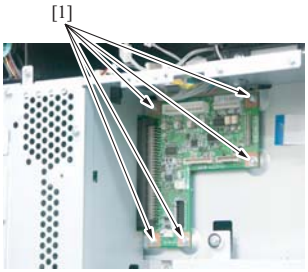
- **When the Image Processing Board is to be replaced, rewriting the Firmware to the latest one.**

6.3.19 Slide Interface Board (PWB-SIF)



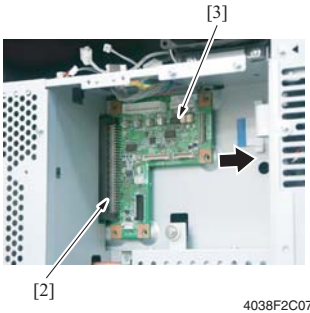
4038F2C074DA

1. Remove the Lower Rear Cover.
☞ 57
2. Remove all the Connectors and the Flat Cable on the Slide Interface Board.



4038F2C075DA

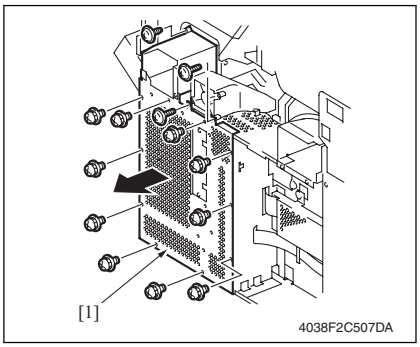
3. Remove five Screws [1].



4038F2C076DA

4. Disconnect the Connector [2] connecting to the MFP Control Board and remove the Slide Interface Board [3].

6.3.20 MFP Control Board (PWB-MFP)



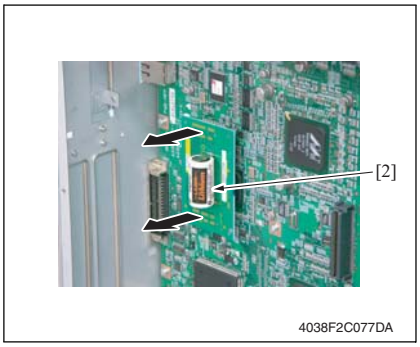
1. Remove the Upper Rear Cover, Lower Rear Cover and Rear Right Cover.

☞ 57, 59

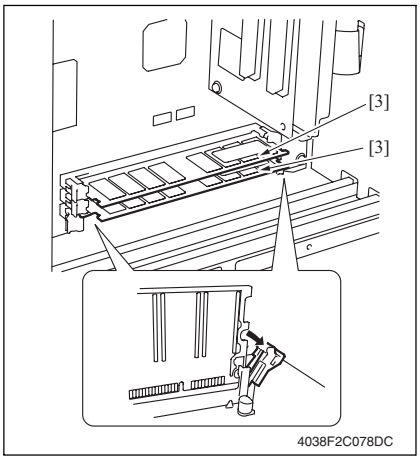
2. Remove the Slide Interface Board.

☞ 75

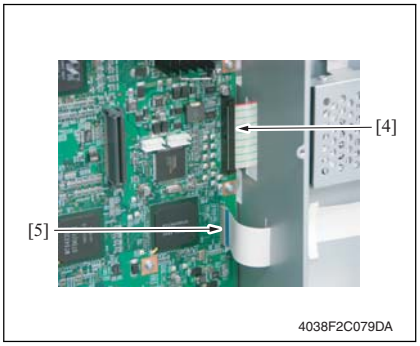
3. Remove thirteen Screws, and remove the Shield cover [1].



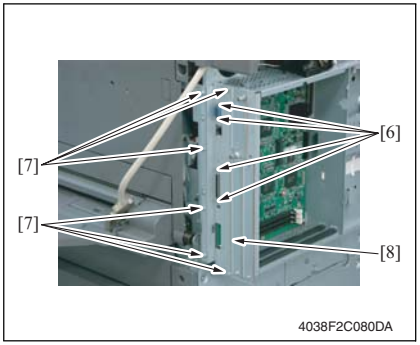
4. Remove the NVRAM [2] on the MFP Control Board.



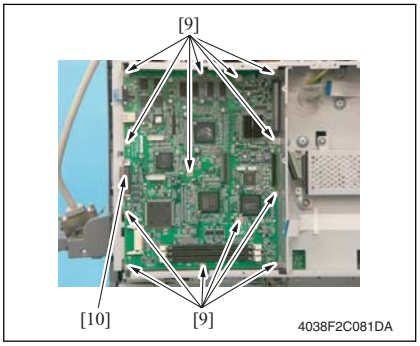
5. Remove the DIMM0 and DIMM1 [3] on the MFP Control Board.



6. Disconnect the Connector [4] and Flat Cable [5].



7. Remove four Bolts [6] and six Screws [7], and remove the Interface cover [8].

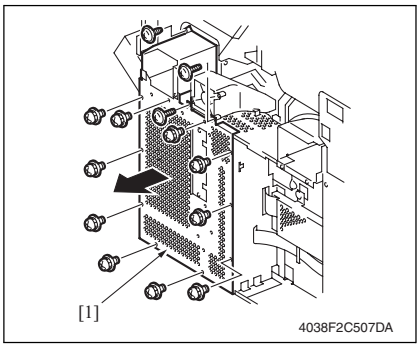


8. Remove thirteen Screws [9], and remove the MFP Control Board [10].

NOTE

- **When the MFP Control Board is replaced, mount the removed NVRAM to the new MFP Control Board.**
- **When the MFP Control Board is replaced, make sure to update the firmware.**

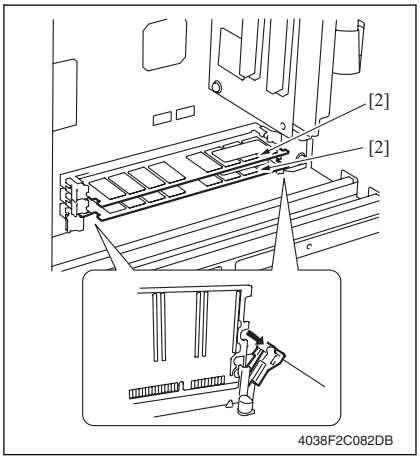
6.3.21 DIMM0 (Work0), DIMM1 (Work1)



1. Remove the Upper Rear Cover, Lower Rear Cover and Rear Right Cover.

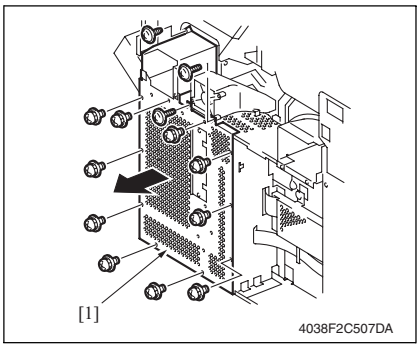
☞ 57, 59

2. Remove thirteen Screws, and remove the Shield cover [1].



3. Remove the DIMM0 [2] and DIMM1 [2].

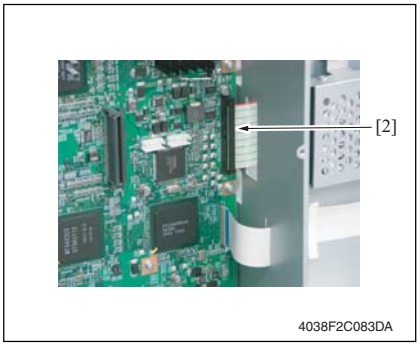
6.3.22 Hard Disk Drive (HDD)



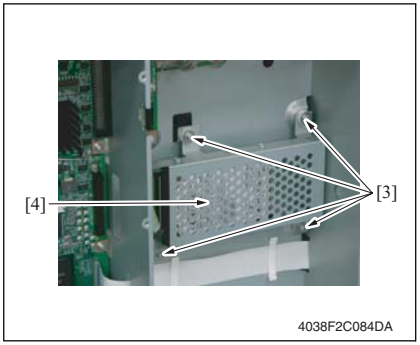
1. Remove the Upper Rear Cover, Lower Rear Cover and Rear Right Cover.

☞ 57, 59

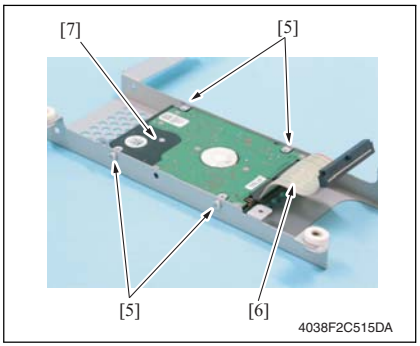
2. Remove thirteen Screws, and remove the Shield cover [1].



3. Disconnect the Connector [2].



4. Remove the four Screws [3], and remove the Hard Disk Drive Assy [4].

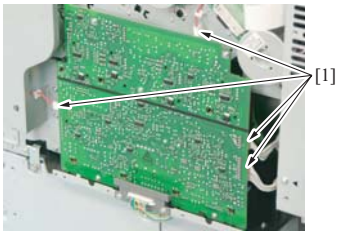


5. Remove four screws [5] and the Flat cable [6], and remove the Hard Disk Drive [7].

NOTE

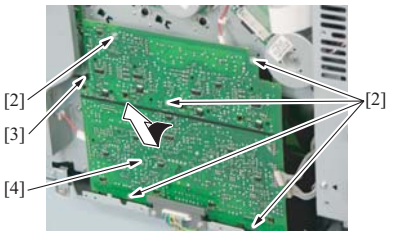
- **When the Hard Disk is replaced, select [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] in Service Mode for Logical format.**

6.3.23 High Voltage Unit (HV1)



4038F2C085DA

1. Remove the PWB Box.
☞ 112
2. Disconnect four Connectors [1].

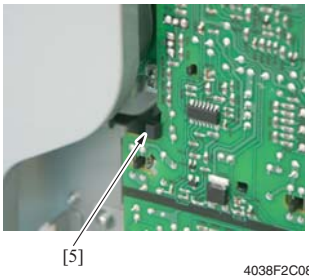


4038F2C086DA

3. Remove five Screws [2] and the tab [3], and remove the High Voltage Unit [4].

NOTE

- **When installing the High Voltage Unit, make sure that the terminal end surely contacts.**

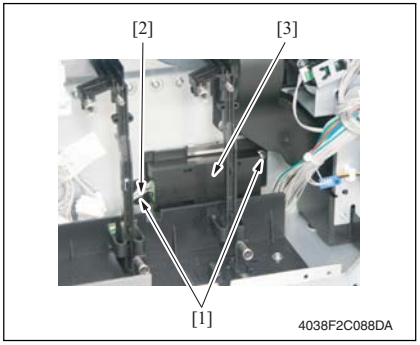


4038F2C087DA

NOTE

- **When installing the High Voltage Unit, make sure that the claw [5] shown in the left illustration is surely set up.**

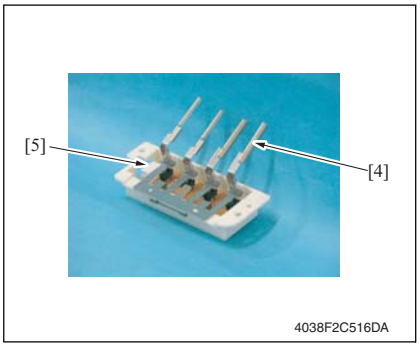
6.3.24 Tray 1 Paper Size Board (PWB-I)



1. Slide out the Tray 1.
2. Remove the PWB Box.

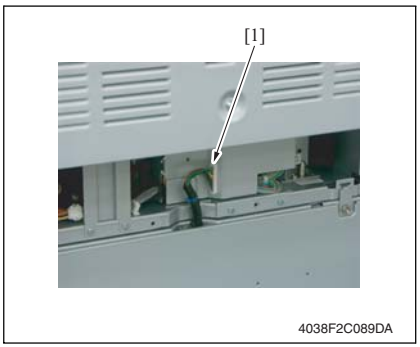
☞ 112

3. Remove two Screws [1] and Connector [2], and remove the Tray 1 Paper Size Board Assy [3].



4. Remove the Lever [4].
5. Remove the Tray 1 Paper Size Board [5].

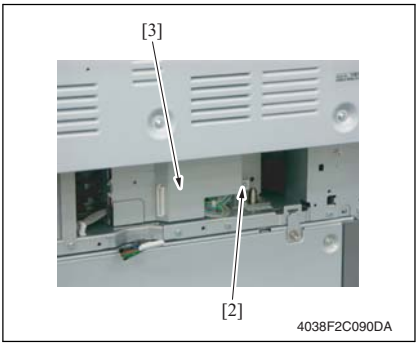
6.3.25 Tray 2 Control Board (PWB-Z-PC)



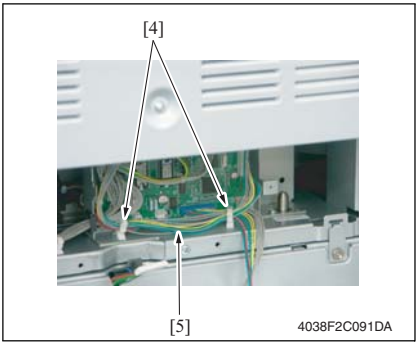
1. Remove the Tray 2 Rear Right Cover and Tray 2 Rear Left Cover.

☞ 63

2. If the optional paper feed cabinet is mounted, disconnect the Connector [1].

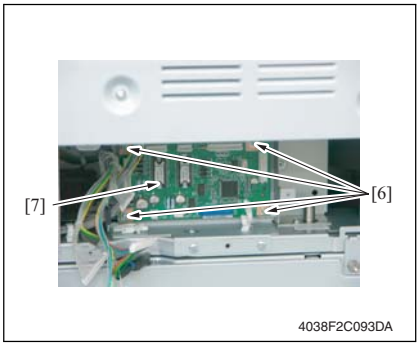


3. Remove the Screw [2], and remove the Metal blanking plate [3].



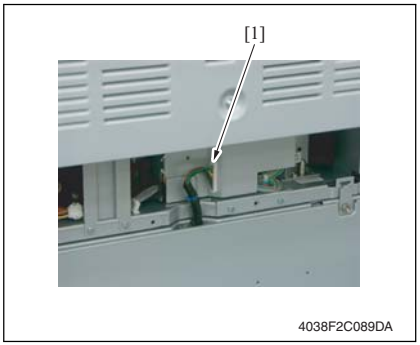
4. Remove the Harness [5] from the Wire saddle [4].

5. Remove all the Connectors on the Tray 2 Control Board.

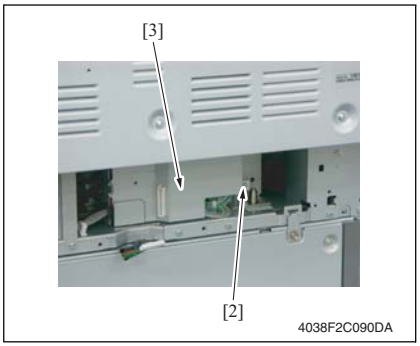


6. Remove four Screws [6], and remove the Tray 2 Control Board [7].

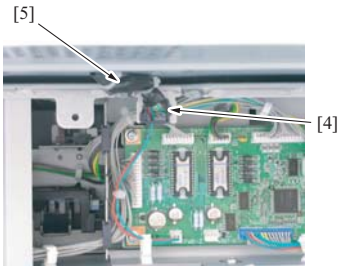
6.3.26 Tray 2 Paper Size Board (PWB-I-PC)



1. Slide out the Tray 2.
2. Remove the Tray 2 Rear Right Cover and Tray 2 Rear Left Cover.
☞ 63
3. If the optional paper feed cabinet is mounted, disconnect the Connector [1].

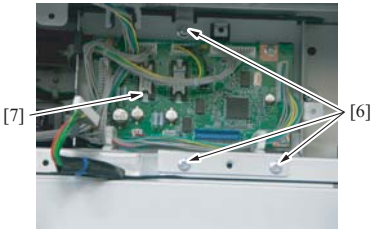


4. Remove the Screw [2], and remove the Metal blanking plate [3].



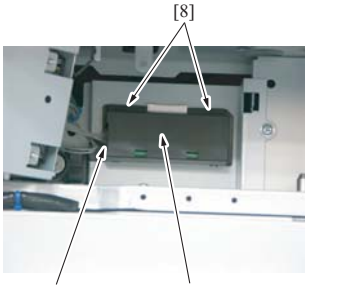
4038F2C094DB

5. Remove the Harness [5] from the Edge cover [4].



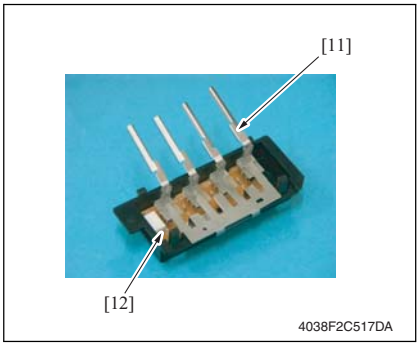
4038F2C095DA

6. Remove three Screws [6], and remove the Tray 2 Control Board Assy [7].



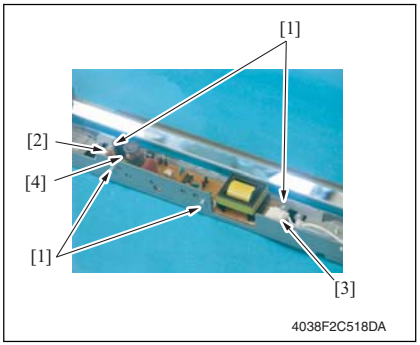
4038F2C096DA

7. Remove two Claws [8] and the Connector [9], and remove the Tray 2 Paper Size Board Assy [10].



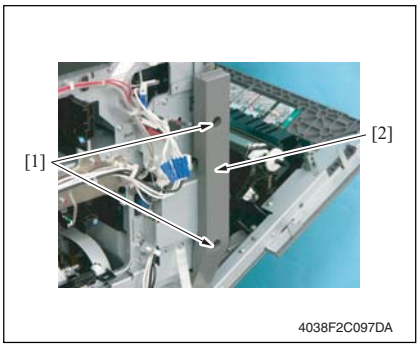
8. Remove the Lever [11], and remove the Tray 2 Paper Size Board [12].

6.3.27 Inverter Board (PU201)

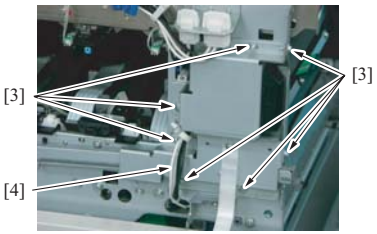


1. Remove the Scanner Assy.
☞ 103
2. Remove four Screws [1], Flat Cable [2] and Connector [3], and remove the Inverter Board [4].

6.3.28 PH Interface Board (PWB-D)

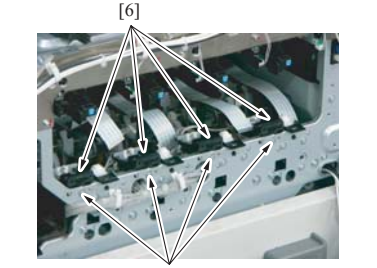


1. Remove the Front Cover.
☞ 64
2. Remove the Image Transfer Belt Unit.
☞ 31
3. Remove two Screws [1], and remove the Front Right Cover [2].



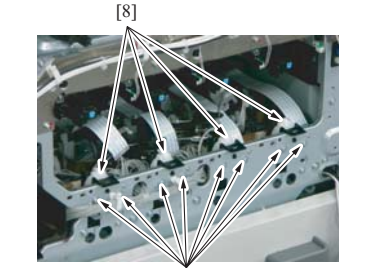
4038F2C098DA

4. Remove seven Screws [3], and remove the Right Door Switch Assy [4].



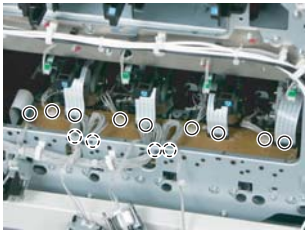
4038F2C099DA

5. Remove the Screw [5] each, and remove the Imaging Unit contact Assy [6] of each color.



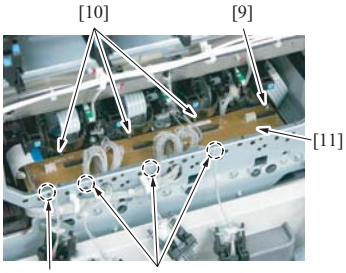
4038F2C100DA

6. Remove two Screws [7] each, and remove the Imaging Unit Roll Assy [8] of each color.



4038F2C101DA

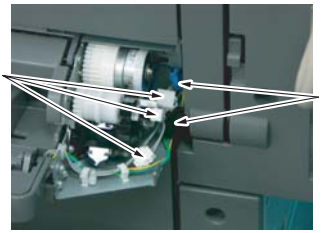
7. Remove all the Connectors and the Flat Cables on the PH Interface Board.



4038F2C102DB

8. Remove two Screws [9] and six tabs [10], and remove the PH Interface Board [11].

6.3.29 Multi Bypass Unit

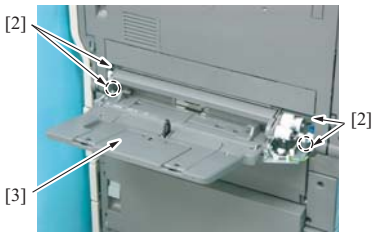


4038F2C103DA

1. Remove the Multi Bypass Tray Right Cover and the Multi Bypass Tray Left Cover.

☞ 58

2. Disconnect five Connectors [1].



4038F2C104DA

3. Remove four Screws [2], and remove the Multi Bypass Unit [3].

4038F2C105DA

NOTE

- **When installing the Multi Bypass Unit, fit the position of dowel shown in the left illustration.**

6.3.30 PH Unit

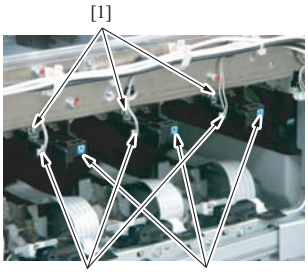
A. Removal Procedure

1. Remove the Front Cover.

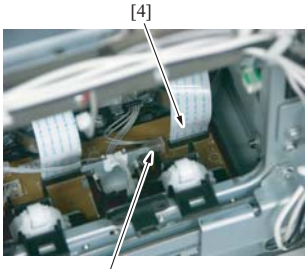
☞ 64

2. Remove the Image Transfer Belt Unit.

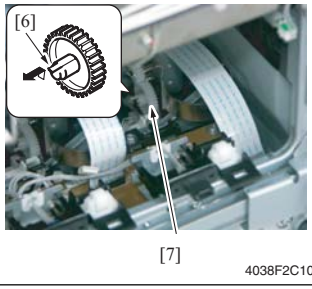
☞ 31



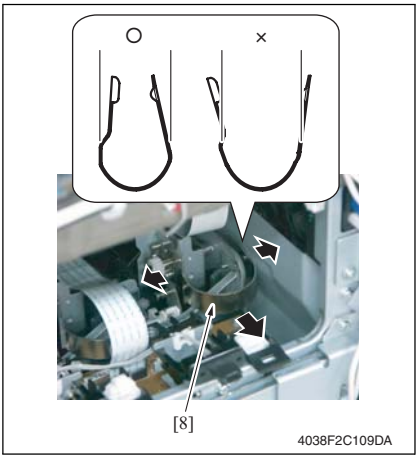
3. Remove the Screw [1] and disconnect the Connector [2] respectively, and remove three Imaging Unit Guide rails [3].



4. Disconnect the Flat Cable [4] and the Connector [5] of the PH Unit (Black).



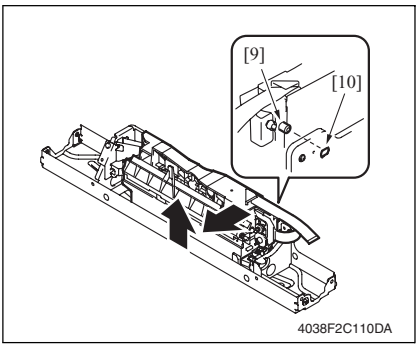
5. Unhook the tab [6], and remove the Gear [7] of the PH Unit (Black).



6. Remove the Stopper [8] of the PH Unit (Black).

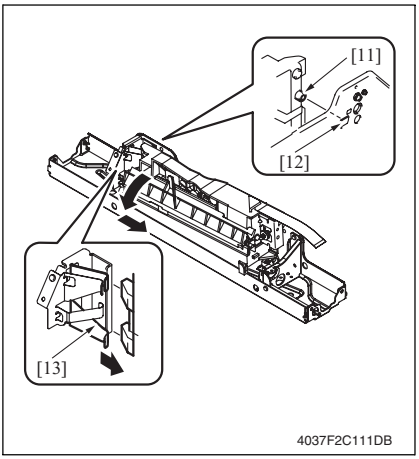
NOTE

- **When removing the Stopper, use care so that both ends of the Stopper will not open but stay parallel as shown on the left.**
  Keep using the Stopper after once stretched out may cause uneven pitch or other image troubles.



7. Remove the PH Unit (Black).

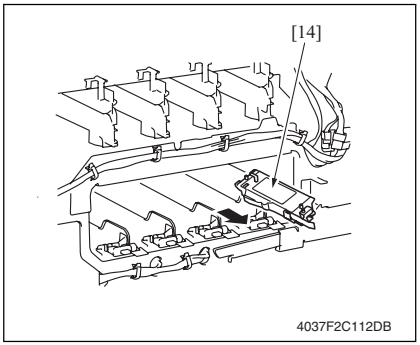
Move the front side of the PH Unit to left a little, and remove the boss [9] from the locating hole [10].
Lift up the front side of the PH Unit a little.



Remove the boss [11] at the rear side of the PH Unit from the locating hole [12].

NOTE

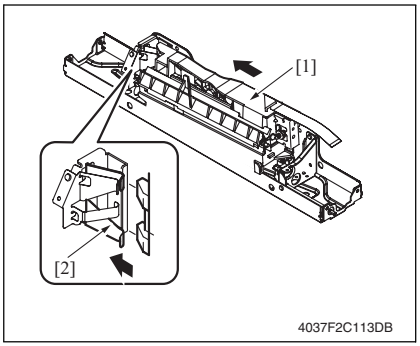
Since the back of the PH Unit is pushed to the right with the two plate springs [13], remove it by tilting the backside of the PH Unit to the left as shown in the left illustration.



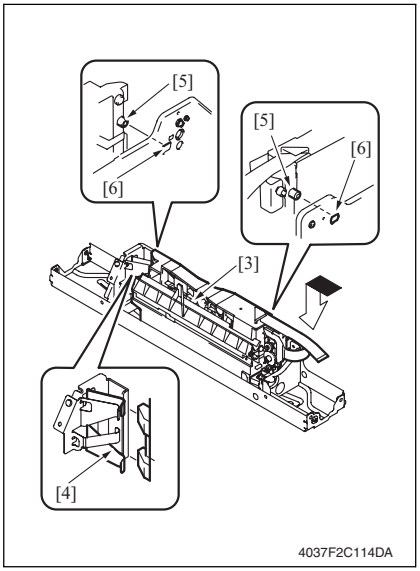
Remove the PH Unit [14].

8. Follow the same procedures to remove all PH Units.

B. Reinstall Procedure

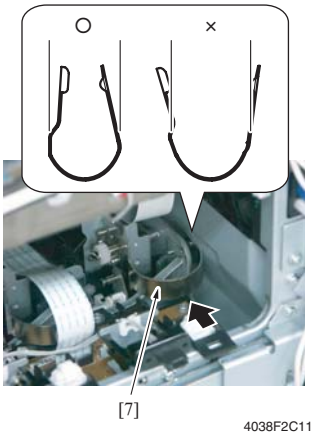


1. Fit the back of the PH Unit [1] into the plate spring [2] of installation plate.



2. Push the PH Unit [3] along the right side line of PH Unit installation plate all the way and fit it into the plate spring [4].

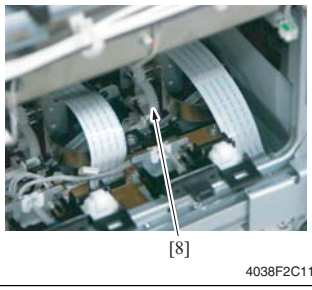
3. Make sure that the two bosses [5] at front and rear side of the PH Unit fit in the locating hole [6].



4. Reinstall the Stopper [7].

NOTE

- **When reinstalling the Stopper, use care so that both ends of the Stopper will not open but stay parallel as shown on the left.**
  Keep using the Stopper after once stretched out may cause uneven pitch or other image troubles.



5. Reinstall the Gear [8].

NOTE

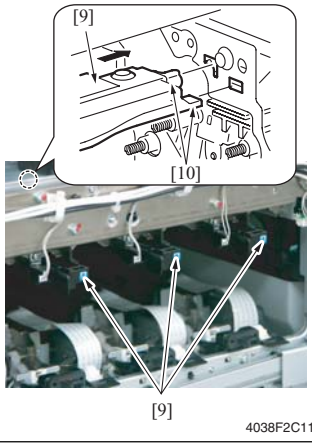
- **Make sure that the gear claw is fit in.**

6. Connect the Connector and the Flat Cable.

NOTE

- **Make sure the Harness is installed along with the Harness guide.**

7. Follow the same procedures to install all the PH Units.



8. Install the Imaging Unit Guide Rail [9].

NOTE

- **Make sure that the two claws [10] at rear end of the rail are fit in the locating hole on the main unit.**

9. Reinstall the Image Transfer Belt Unit.

10. Reinstall the Front Cover.

11. Make skew adjustment of the PH Unit.

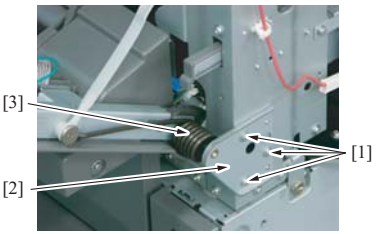
☞ 309

NOTE

- **When replacing the PH Unit, make sure to conduct PH Unit skew adjustment.**

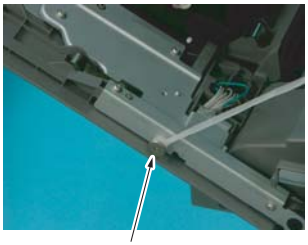
6.3.31 Transport Drive Assy

1. Remove the PWB Box.
☞ 112
2. Remove the High Voltage Unit.
☞ 80
3. Remove the Color Developing Motor.
☞ 115
4. Remove the Color PC Drum Motor.
☞ 116
5. Remove the Main Motor.
☞ 117



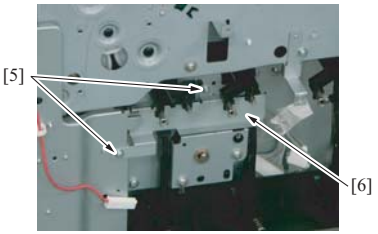
4038F2C118DA

6. Remove three Screws [1], and remove the Reinforcement plate [2] of the Right Door and spring [3].



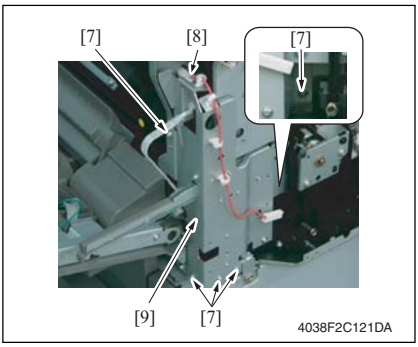
4038F2C119DA

7. Remove the Shoulder Screw [4].

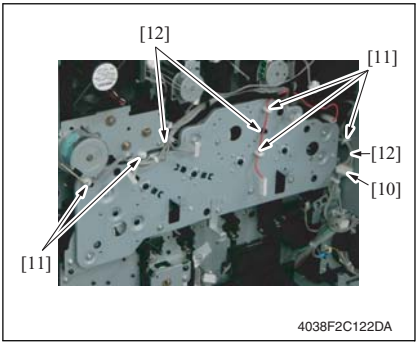


4038F2C120DA

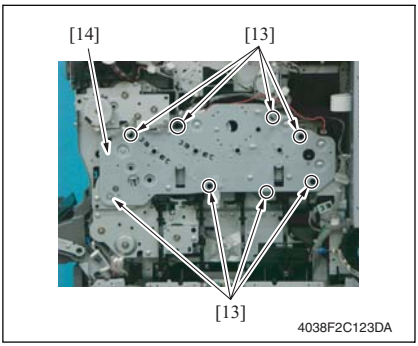
8. Remove two Screws [5], and remove the Metal blanking plate [6].



9. Remove five Screws [7] and the Connector [8], and remove the Rear Handle Assy [9].



10. Disconnect the Connector [10].
11. Remove the Harnesses [12] from five Wire Saddles [11].

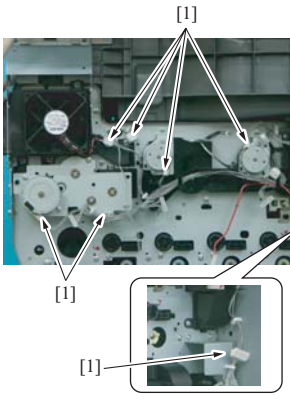


12. Remove eight Screws [13], and remove the Transport Drive Assy [14].

NOTE

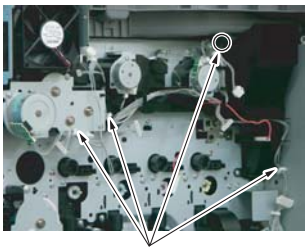
- **The Screw is fixed at the position with the triangle markers.**

6.3.32 Hopper Drive Assy



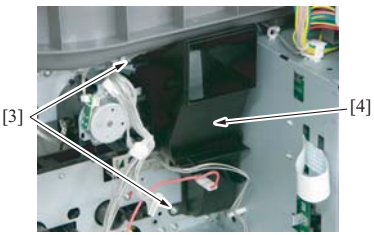
4038F2C124DB

1. Remove the Transfer Drive Assy.
☞ 93
2. Disconnect seven Connectors [1].



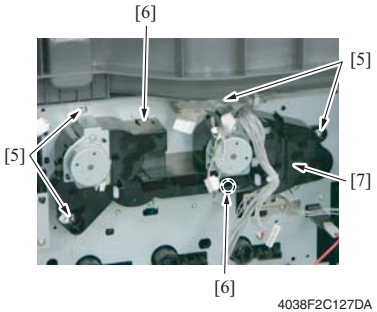
4038F2C125DA

3. Remove the Harness from four Wire Saddles [2].



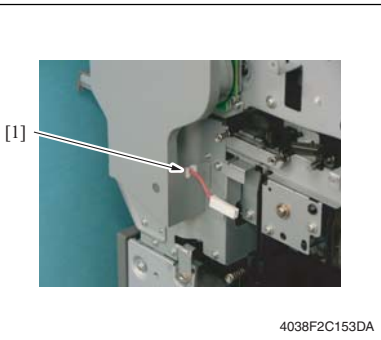
4038F2C126DA

4. Remove two Screws [3], and remove the Duct [4].

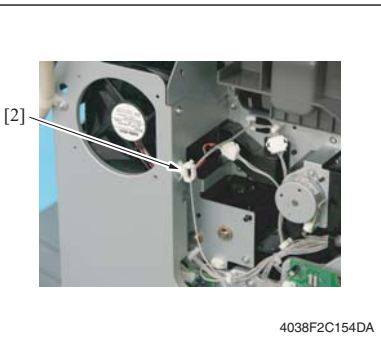


5. Remove four Screws [5] and two Claws [6], and remove the Hopper Drive Assy [7].

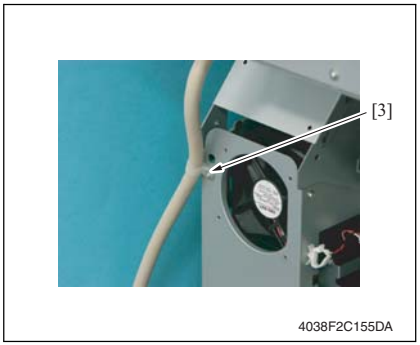
6.3.33 Right Door Assy



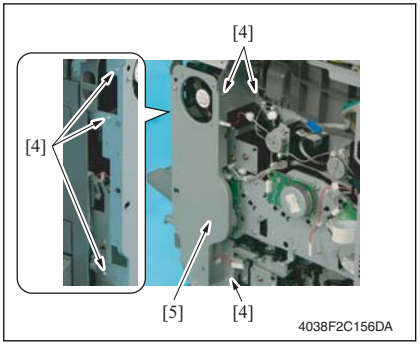
1. Remove the PWB Box.
☞ 112
2. Remove the High Voltage Unit.
☞ 80
3. Remove the IR Right Cover.
☞ 54
4. Remove the Harness from the Edge Cover [1].



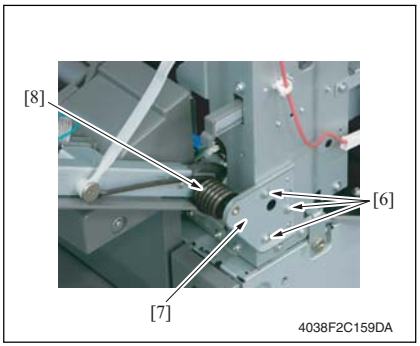
5. Remove the Harness from the Wire Saddle [2].



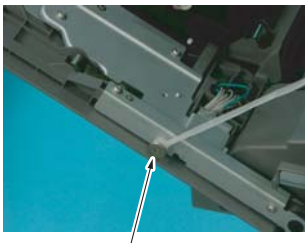
6. Remove the Screw [3] fixing the IR cable.



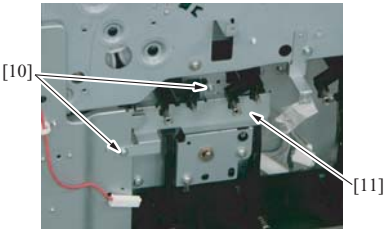
7. Remove six Screws [4], and remove the Motor cover [5].



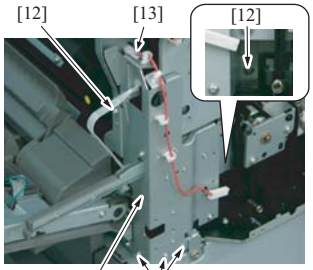
8. Open the Right Door.
9. Remove three Screws [6], and remove the Reinforcement plate [7] of the right door and spring [8].



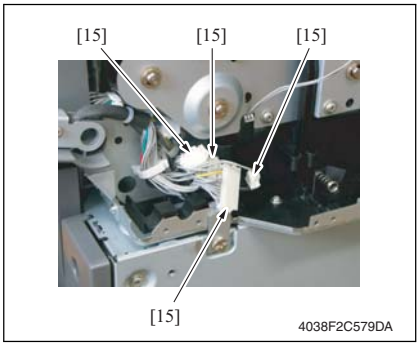
10. Remove the Shoulder Screw [9].



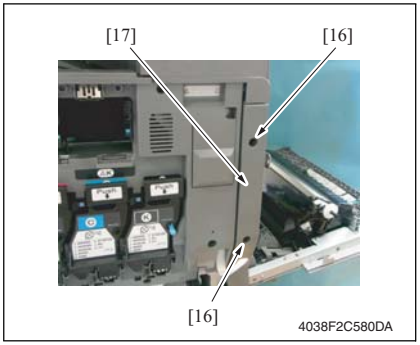
11. Remove two Screws [10], and remove the Metal blanking plate [11].



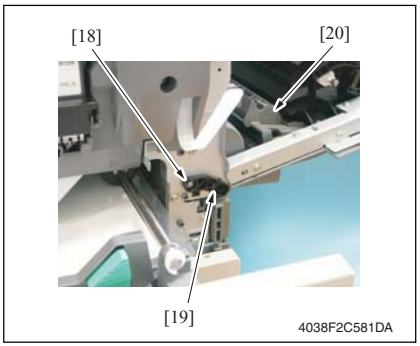
12. Remove five Screws [12] and the Connector [13], and remove the Rear Handle Assy [14].



13. Disconnect four Connectors [15].



14. Remove the Front Door.
☞ 59
15. Slide out the Tray 1.
16. Remove two Screws [16], and remove the Front Right Cover [17].



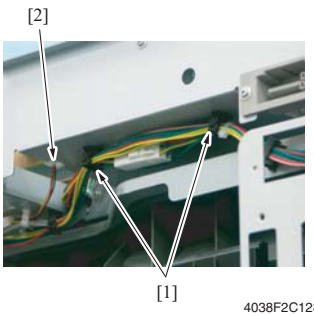
17. Remove the Screw [18], and remove the Shaft [19].
18. Remove the Right Door Assy [20].

6.3.34 Scanner Motor (M201)

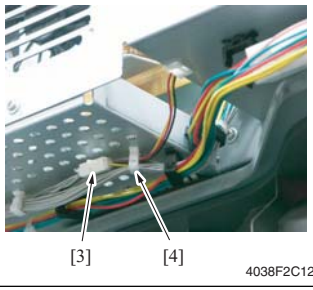
A. Removal Procedure

1. Remove the Upper Rear Cover and the IR Upper Rear Cover.

☞ 57, 54

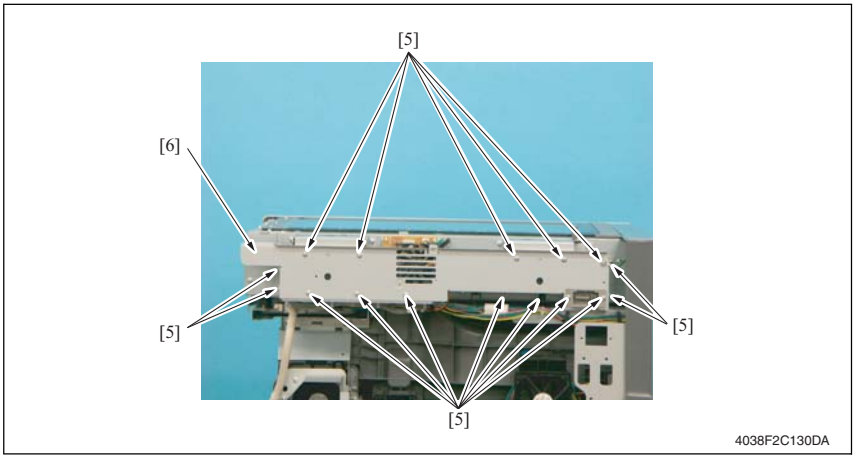


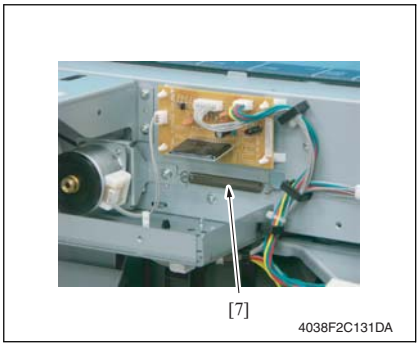
2. Remove the Harness from two Wire Saddles [1] and the Edge Cover [2].



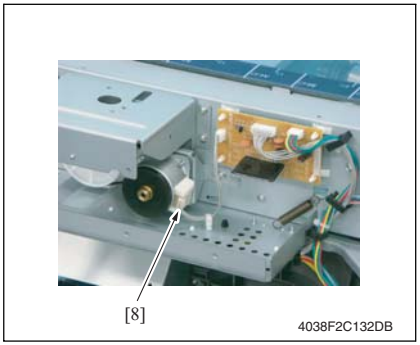
3. Disconnect the Connector [3], and remove the Harness from the Wire Saddle [4].

4. Remove 16 screws [5], and remove the IR reinforcement frame [6].

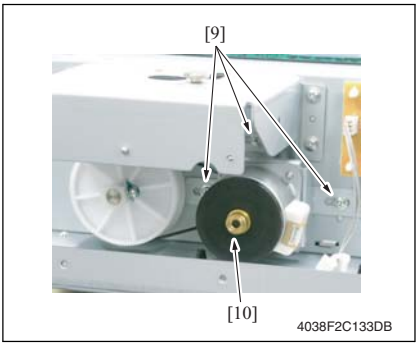




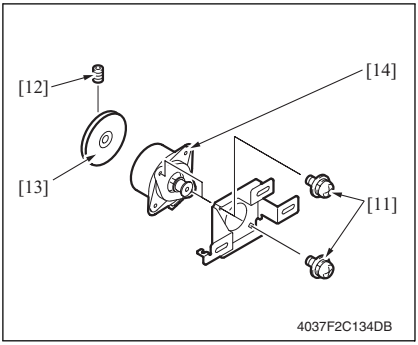
5. Remove the Tension spring [7] for the Scanner Motor belt.



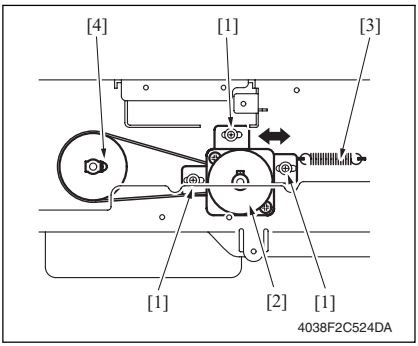
6. Disconnect the Connector [8].



7. Remove three Screws [9], and remove the Scanner Motor Assy [10].



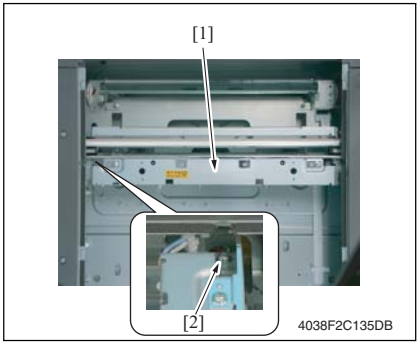
8. Remove two Screws [11], Set screw [12], Damper [13], and remove the Scanner Motor [14].



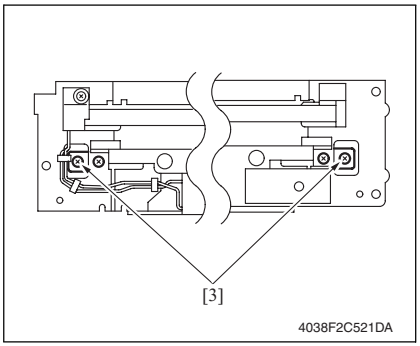
B. Reinstallation Procedure

1. Temporarily secure the Scanner Motor Assy [2] using three Screws [1].
2. Hook the Tension spring [3].
3. With the Scanner drive gear set screw located on the right-hand side as shown on the left, slide the Scanner Motor Assy to the left and check that it is returned to the original position by the tension of the spring. Perform this step three times.
4. Securely tighten the three Screws to fix the Scanner Motor Assy [2] into position.
5. Connect the Connector and fix the Harness to the Wire Saddle.

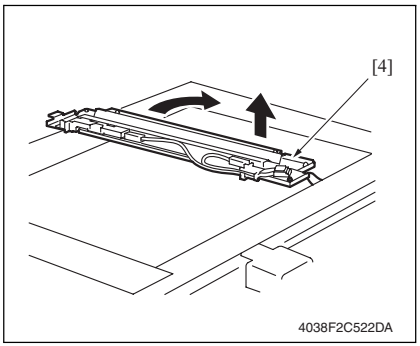
6.3.35 Scanner Assy



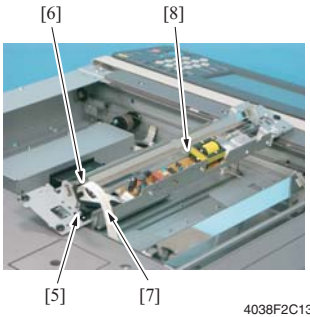
1. Remove the Original Glass.
☞ 56
2. Move the Scanner Assy [1] to the notch position shown in the left illustration, and remove the mounting screws [2] at front and rear.



NOTE
- **Do not remove the Scanner Positioning Screws (red-painted) [3].**



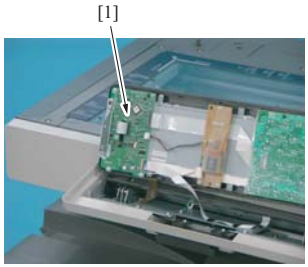
3. Take out the Scanner Assy [4] by turning it in the direction of the arrow shown.



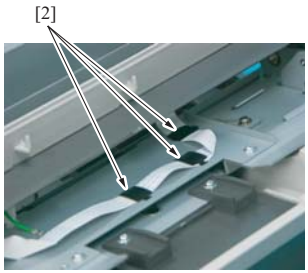
4. Remove the Screw [5], and remove the Holder [6].
5. Peel off the aluminum tape, and remove the flat cable [7].
6. Remove the Scanner Assy [8].

6.3.36 Scanner Drive Cables

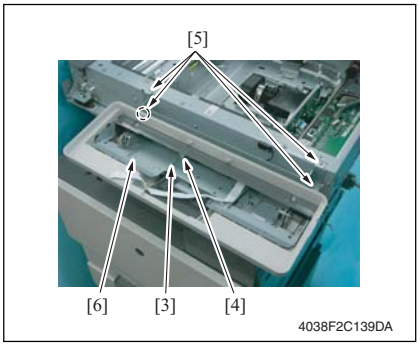
A. Removal Procedure



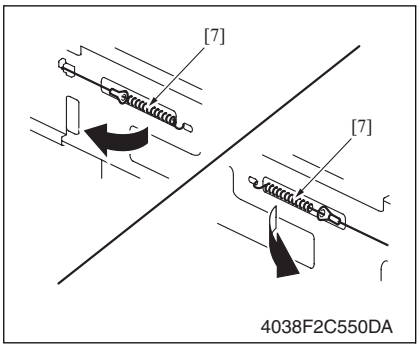
1. Remove the Upper Rear Cover.
☞ 57
2. Remove the Control Panel [1].
☞ 60



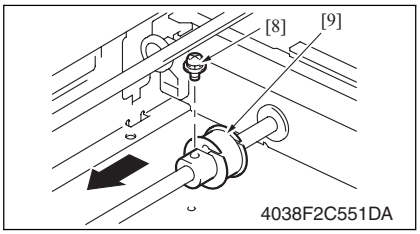
3. Remove three Presser Bars [2] of Flat Cable.



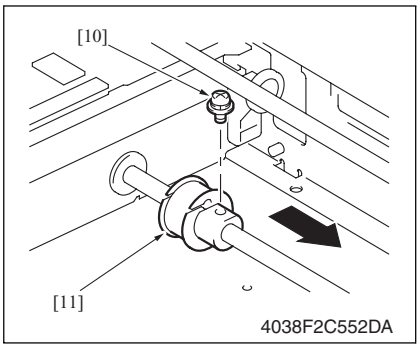
4. Remove the IR Front Cover.
☞ 56
5. Remove the Screw [3], and remove the Ground cable from the Wire Saddle [4].
6. Remove four screws [5], and remove the Control panel base [6].



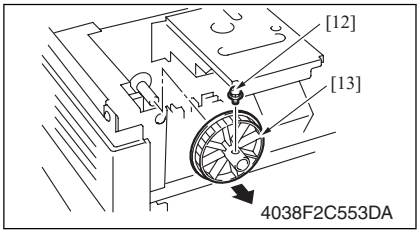
7. Remove the Original Glass.
☞ 56
8. Remove the Scanner Assy.
☞ 103
9. Unhook the Springs [7] of the Scanner Drive Cables on the hook side, one each at the front and in the rear.



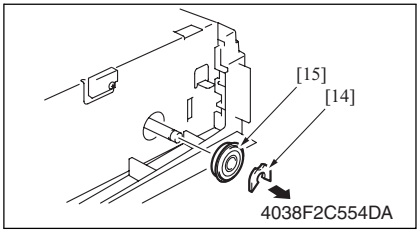
10. Remove the Scanner Motor Assy.
☞ 100
11. Remove the Screw [8] and then slide the Front pulley [9] toward the front.



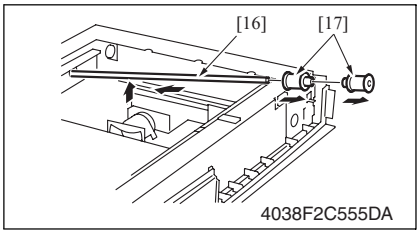
12. Remove the Screw [10], and slide the Wire Pulley [11] (Rear side) in the direction of front side.



13. Remove the Screw [12], and remove the Scanner drive gear [13].

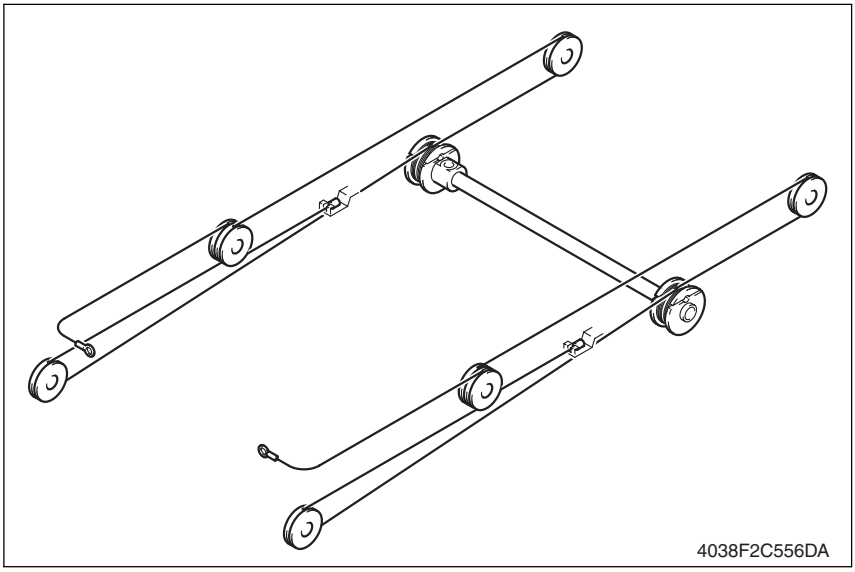


14. Snap off the C-clip [14], and remove the Bushing [15] (front).

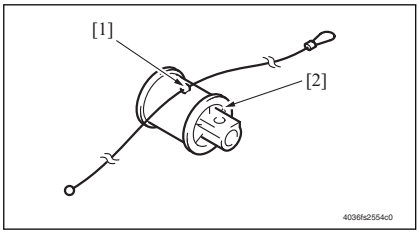


15. Slide the Shaft [16] toward the rear and lift it. Then, remove the front and rear pulleys [17].
16. Remove the Scanner Drive Cables.

B. Winding of the Scanner Drive Cables
(1) Overall figure



(2) Reinstallation Procedure

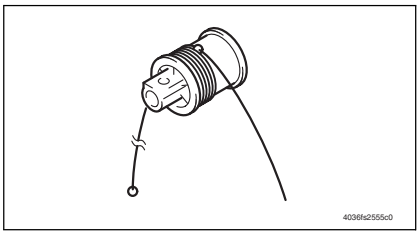


<Front>

1. Position the round bead [1] of the Scanner Drive Cable in the pulley [2] as shown.

NOTE

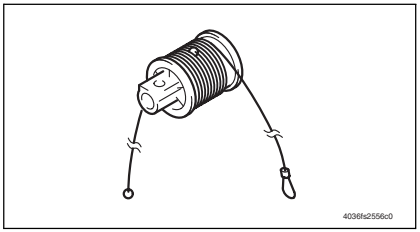
- **Make sure that the bead snugly rests in the slit in the pulley.**



2. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the rear toward the front side.

NOTE

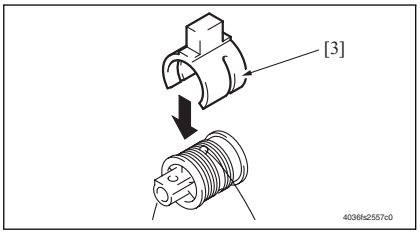
- **Make sure that no part of the cable rides on the other.**



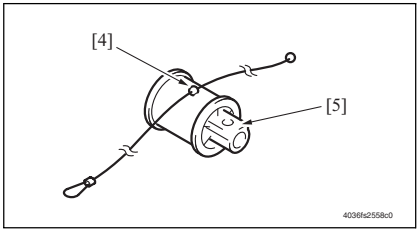
3. Wind the hook end of the cable around the pulley five turns counterclockwise, from the front toward the rear side.

NOTE

- **Make sure that no part of the cable rides on the other.**



4. Slip the Cable Holding Jig [3] onto the pulley to secure the cable in position.

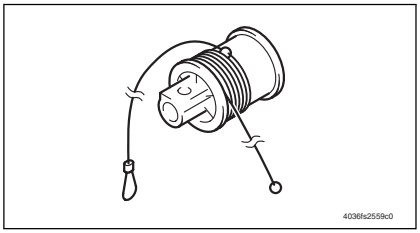


<Rear>

5. Position the round bead [4] of the Scanner Drive Cable in the pulley [5] as shown.

NOTE

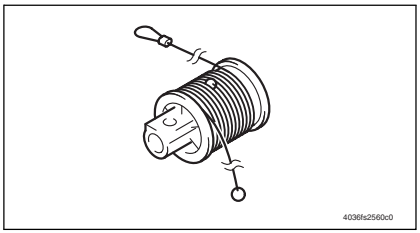
- **Make sure that the bead snugly rests in the slit in the pulley.**



6. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the front toward the rear side.

NOTE

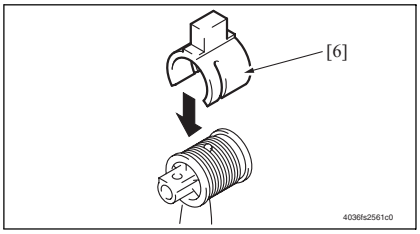
- **Make sure that no part of the cable rides on the other.**



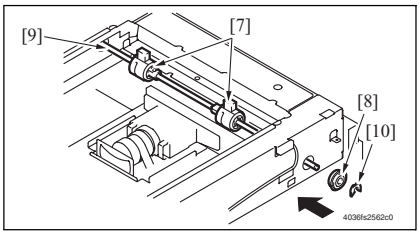
7. Wind the hook end of the cable around the pulley five turns counterclockwise, from the rear toward the front side.

NOTE

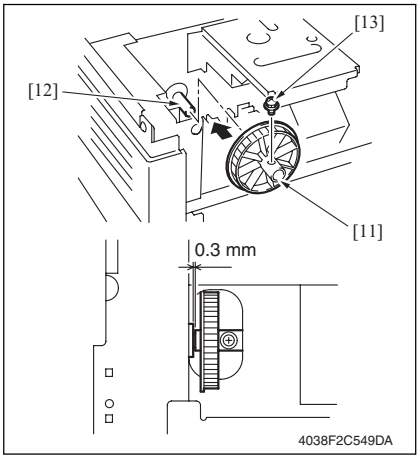
- **Make sure that no part of the cable rides on the other.**



8. Slip the Cable Holding Jig [6] onto the pulley to secure the cable in position.



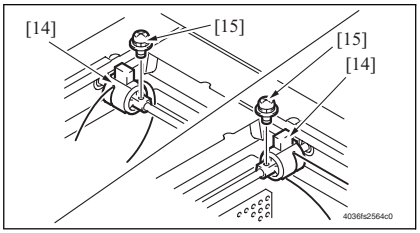
9. Install the front and rear pulleys [7] and bushings [8] onto the shaft [9] and fit the C-clip [10].



10. Mount the Scanner drive gear [11] on the shaft [12] and secure it using the screw [13].

NOTE

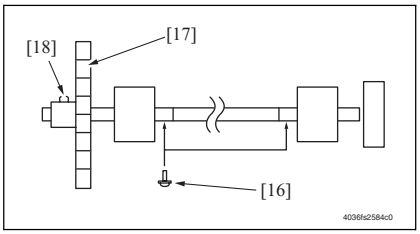
- **Allow a clearance of about 0.3 mm between the Scanner drive gear and bushing.**
- **Apply the Screw lock on the Screw.**



11. Secure the front and rear pulleys [14] using the screw [15] each.

NOTE

- **Apply the Screw lock on the Screw.**

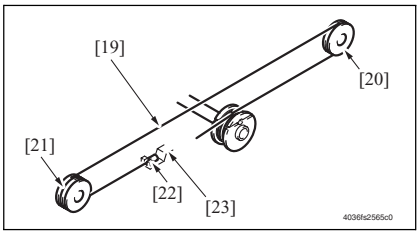


NOTE

- **Mount the Screw [16] in the direction that is opposite against the direction for which Scanner Drive Gear [17] and Screw [18] are screwed together as shown in the left figure.**

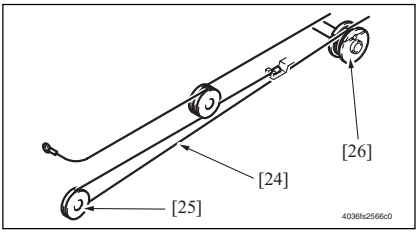
12. Mount the Scanner Motor Assy.

☞ 100

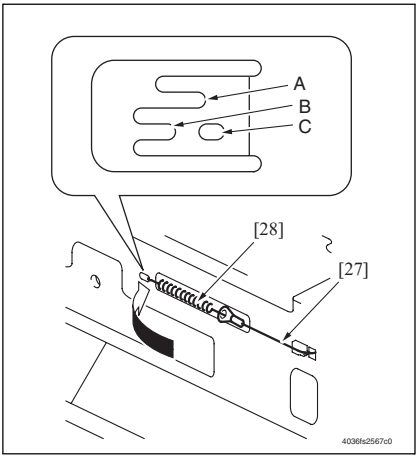


<Front>

13. Wind the bead end of the cable [19] around pulley C [20] and pulley B [21], then hook the bead [22] onto the Adjustable Anchor [23].

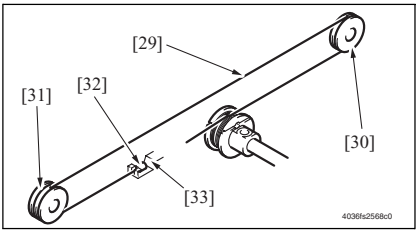


14. Wind the hook end of the cable [24] around pulley A [25] and pulley B [26].

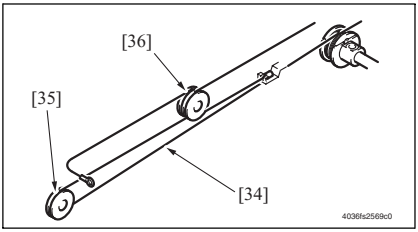


15. Fit the hook end of the cable [27] to the spring [28] and then hook the spring to the catch A in the frame.
16. Measure the Spring length, and check if its length is within the range of 63.0 mm ± 1 mm.

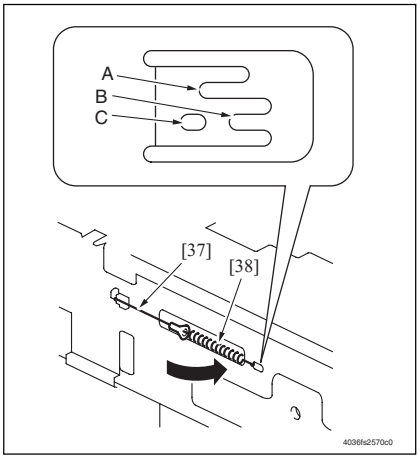
<When out of the given range>
- In case of 64.1 mm or more:
  Retry to put the spring on the catch B.
- In case of 61.9 mm or less:
  Retry to put the spring on the catch C.



<Rear>
17. Wind the bead end of the cable [29] around pulley F [30] and pulley E [31], then hook the bead [32] onto the Adjustable Anchor [33].



18. Wind the hook end of the cable [34] around pulley D [35] and pulley E [36].



19. Fit the hook end of the cable [37] to the spring [38] and then hook the spring to the catch A in the frame.
20. Measure the Spring length, and check if its length is within the range of 63.0 mm ± 1 mm.

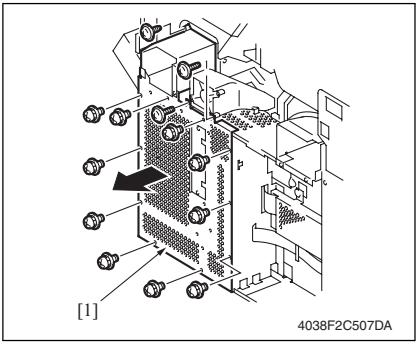
<When out of the given range>
- In case of 64.1 mm or more:
  Retry to put the spring on the catch B.
- In case of 61.9 mm or less:
  Retry to put the spring on the catch C.

21. Remove the Cable Holding Jigs from the front and rear pulleys.
22. Adjust the focus positioning of the Scanner and Mirrors Unit.
☞ 305
23. Adjust the position of the Scanner and 2nd/3rd Mirrors Carriage.
☞ 306

NOTE
- **Whenever the Scanner Drive Cables have been removed, be sure to carry out the [Feed Direction Adjustment] procedure.**

☞ 238

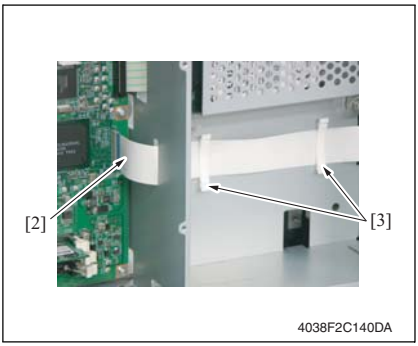
6.3.37 PWB Box



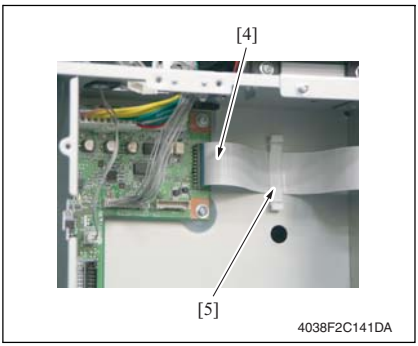
1. Remove the Upper Rear Cover, Lower Rear Cover and Rear Right Cover.

☞ 57, 59

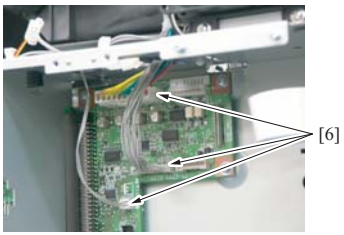
2. Remove thirteen Screws, and remove the Shield cover [1].



3. Disconnect the Flat Cable [2] on the MFP Control Board, and remove two Presser Bars [3] of Flat Cable.

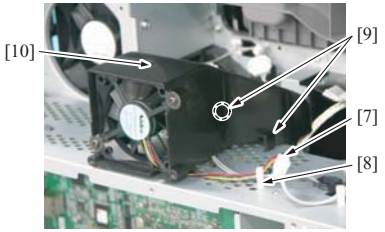


4. Disconnect the Flat Cable [4] on the Slide Interface Board, and remove the Presser Bar [5] of Flat Cable.



4038F2C142DA

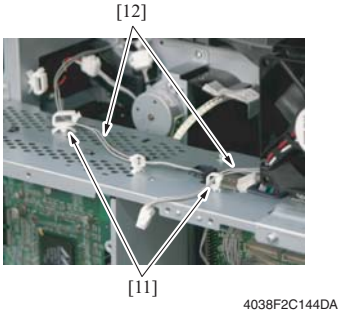
5. Disconnect three Connectors [6] on the Slide Interface Board.



4038F2C143DA

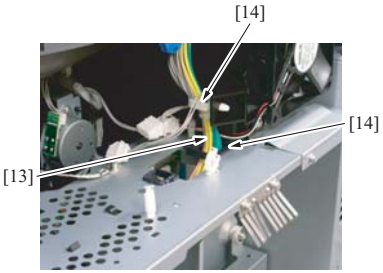
6. Disconnect the Connector [7], and remove the Harness from the Wire Saddle [8].

7. Remove two tabs [9], and remove the Cooling Fan Motor/2 [10].



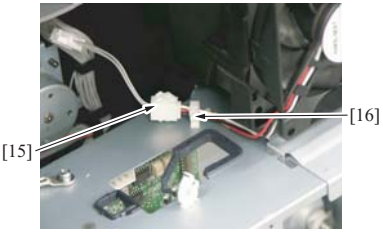
4038F2C144DA

8. Remove the Harness [12] from two Wire Saddles [11].



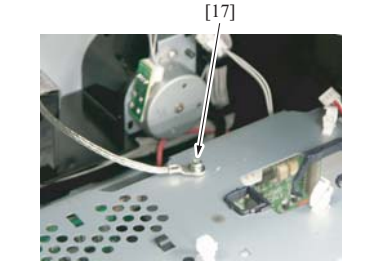
4038F2C145DB

9. Remove the Harness [13] from two Edge Covers [14].



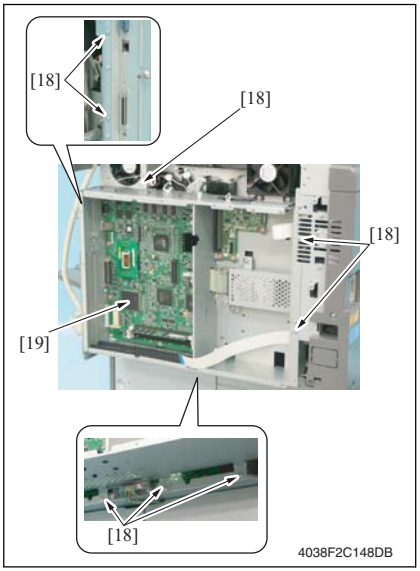
4038F2C146DA

10. Disconnect the Connector [15], and remove the Harness from the Wire Saddle [16].



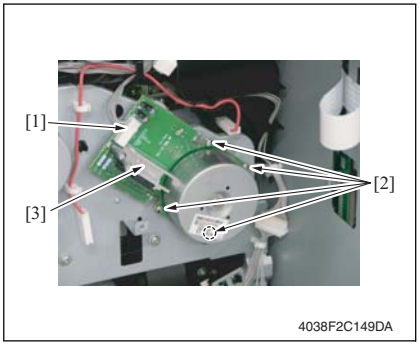
4038F2C147DA

11. Remove the Screw [17] of the Ground terminal.



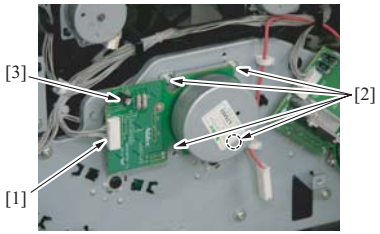
12. Remove eight Screws [18], and remove the PWB Box [19].

6.3.38 Color Developing Motor (M3)



1. Remove the PWB Box.
☞ 112
2. Remove the Connector [1] and four Screws [2], and remove the Color Developing Motor [3].

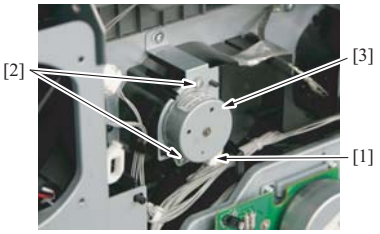
6.3.39 Color PC Drum Motor (M2)



4038F2C150DA

1. Remove the PWB Box.
☞ 112
2. Remove the Connector [1] and four Screws [2], and remove the Color PC Drum Motor [3].

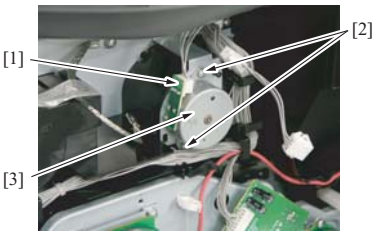
6.3.40 Toner Supply Motor C/K (M7)



4038F2C151DA

1. Remove the PWB Box.
☞ 112
2. Remove the Connector [1] and two Screws [2], and remove the Toner Supply Motor C/K [3].

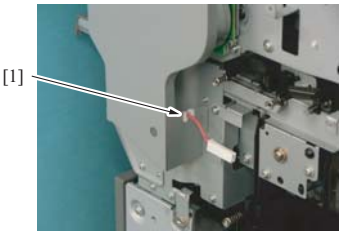
6.3.41 Toner Supply Motor Y/M (M6)



4038F2C152DA

1. Remove the PWB Box.
☞ 112
2. Remove the Connector [1] and two Screws [2], and remove the Toner Supply Motor Y/M [3].

6.3.42 Main Motor (M1)

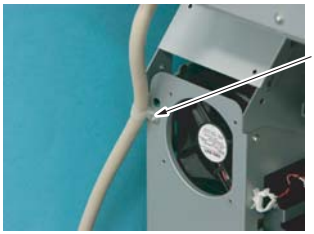


4038F2C153DA

1. Remove the PWB Box.
☞ 112
2. Remove the IR Right Cover.
☞ 54
3. Remove the Harness from the Edge Cover [1].

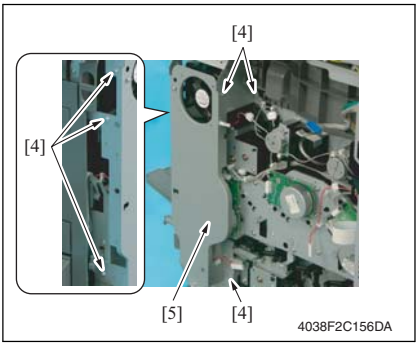
4038F2C154DA

4. Remove the Harness from the Wire Saddle [2].

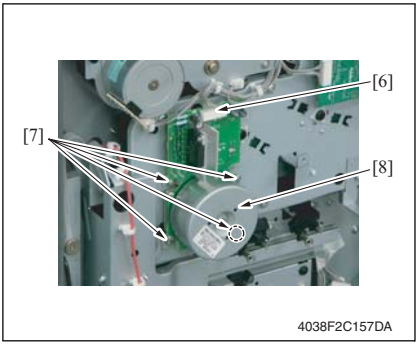


4038F2C155DA

5. Remove the Screw [3] fixing the IR cable.

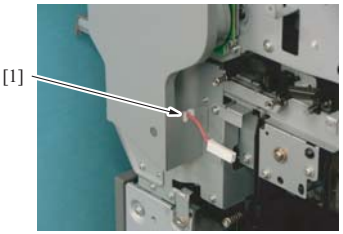


6. Remove six Screws [4], and remove the Motor cover [5].

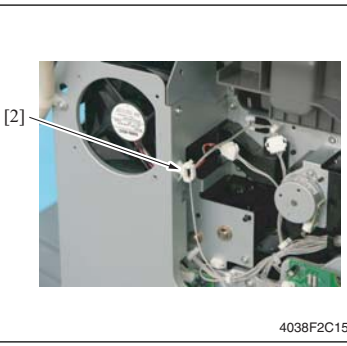


7. Remove the Connector [6] and four Screws [7], and remove the Main Motor [8].

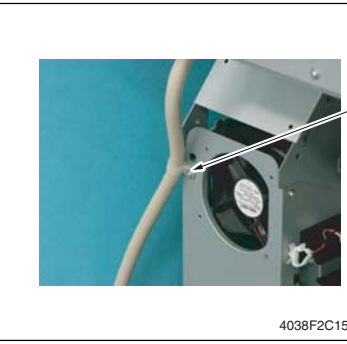
6.3.43 Fusing Drive Motor (M4)



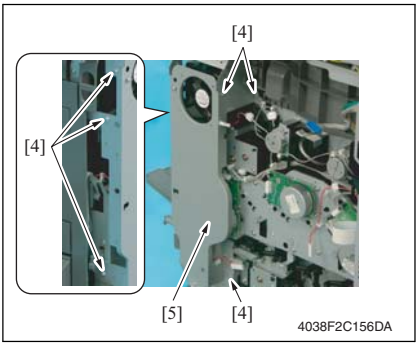
1. Remove the PWB Box.
☞ 112
2. Remove the IR Right Cover.
☞ 54
3. Remove the Harness from the Edge Cover [1].



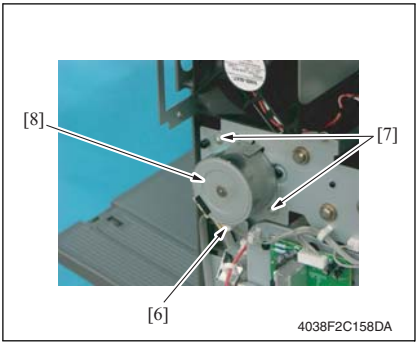
4. Remove the Harness from the Wire Saddle [2].



5. Remove the Screw [3] fixing the IR cable.

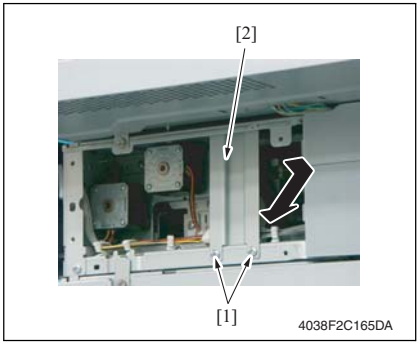


6. Remove six Screws [4], and remove the Motor cover [5].



7. Remove the Connector [6] and two Screws [7], and remove the Fusing Drive Motor [8].

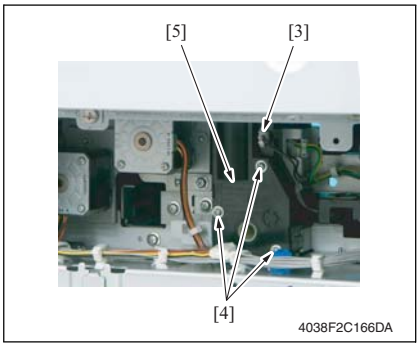
6.3.44 Tray 2 Lift-Up Motor (M3-PC)



1. Pull out the Tray 2.
2. Remove the Tray 2 Rear Right Cover.

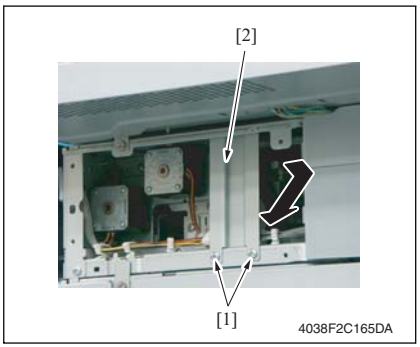
☞ 63

3. If the optional paper feed cabinet is mounted, remove it.
4. Remove two Screws [1], and remove the Reinforcement plate [2].



5. Disconnect the Connector [3].
6. Remove three Screws [4], remove and the Tray 2 Lift-Up Motor [5].

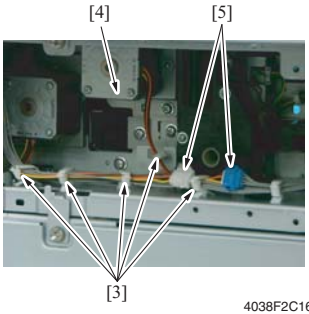
6.3.45 Tray 2 Paper Feed Motor (M1-PC)



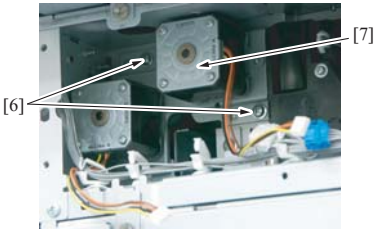
1. Pull out the Tray 2.
2. Remove the Tray 2 Rear Right Cover and the Tray 2 Rear Left Cover.

☞ 63

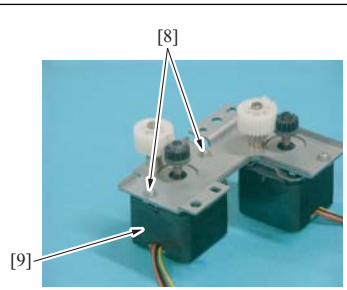
3. Remove two Screws [1], and remove the Reinforcement plate [2].



4. Remove the Harness of the Motor Assy [4] from five Wire Saddles [3].
5. Disconnect two Connectors [5].

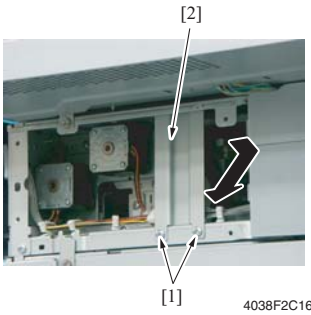


6. Remove two Screws [6], and remove the Motor Assy [7].



7. Remove two Screws [8], and remove the Tray 2 Paper Feed Motor [9].

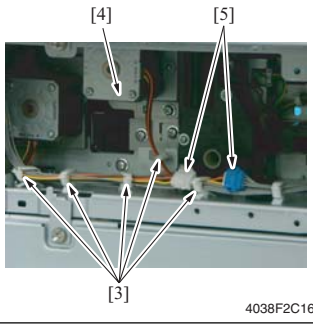
6.3.46 Tray 2 Vertical Transport Motor (M2-PC)



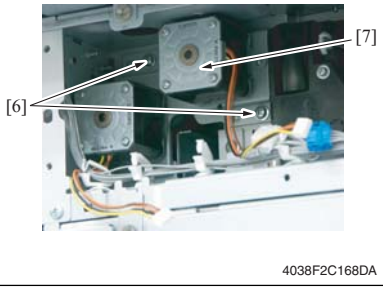
1. Pull out the Tray 2.
2. Remove the Tray 2 Rear Right Cover and the Tray 2 Rear Left Cover.

☞ 63

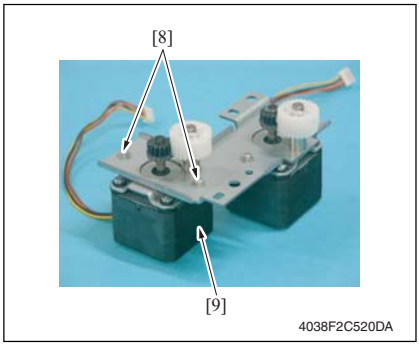
3. Remove two Screws [1], and remove the Reinforcement plate [2].



4. Remove the Harness of the Motor Assy [4] from five Wire Saddles [3].
5. Disconnect two Connectors [5].

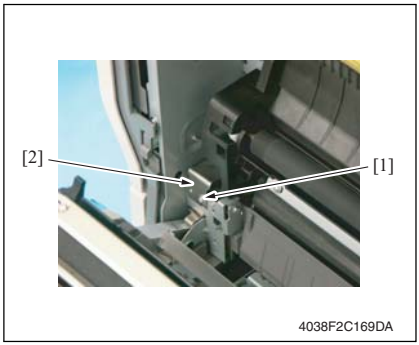


6. Remove two Screws [6], and remove the Motor Assy [7].



7. Remove two Screws [8], and remove the Tray 2 Vertical Transport Motor [9].

6.3.47 IDC/Registration Sensor/1, IDC/Registration Sensor/2 (SE1/SE2)



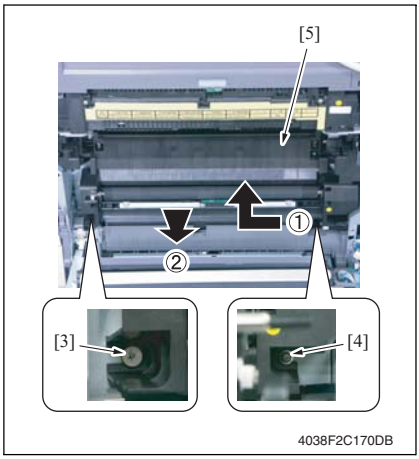
1. Remove the Image Transfer Belt Unit.

☞ 31

2. Remove the Multi Bypass Unit.

☞ 87

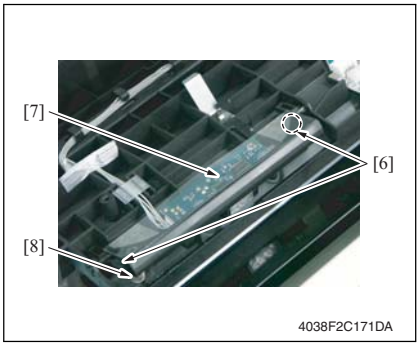
3. Remove the Screw [1], and remove the Plate spring [2].



4. Remove the Shoulder Screw [3] and the Screw [4].
5. Remove the Vertical transport unit [5] in manner of the left illustration.

NOTE

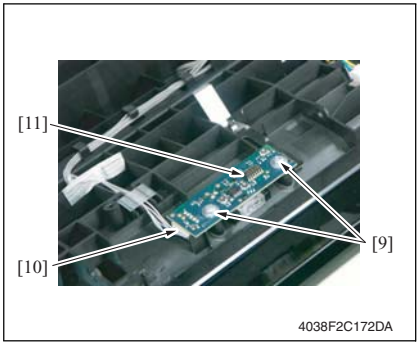
- **Since multiple Connectors are connected to the backside of the Vertical Transport Assy, do not pull it by force.**



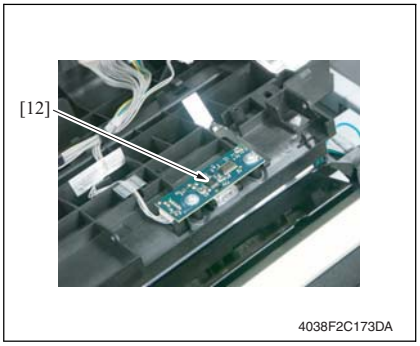
6. Remove the Claws [6] of both sides, and remove the Sensor cover [7].

NOTE

- **Use care not to miss the spring [8].**



7. Remove two Screws [9] and Connector [10], and remove the IDC/Registration Sensor/1 [11].



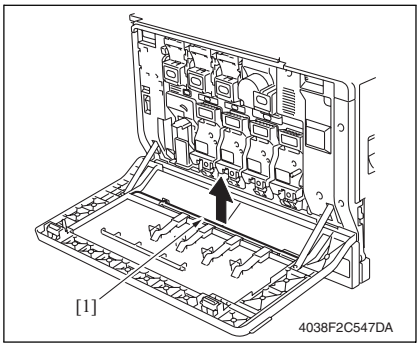
8. Repeat the step 6 and 7, and remove the IDC/Registration Sensor/2 (rear side) [12].

6.4 Cleaning procedure

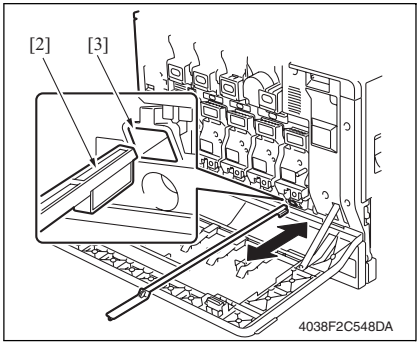
NOTE

- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

6.4.1 PH Window



1. Open the Front Door.
2. Remove the PH Window Cleaning Jig [1].

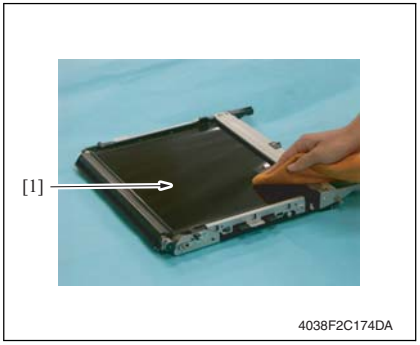


3. Insert the PH Window Cleaning Jig [2] to the cleaning port [3] and clean it by putting the jig back and forth a couple times.

NOTE

- **Clean every PH Window of CMYK.**

6.4.2 Image Transfer Belt Unit



1. Remove the Image Transfer Belt Unit.

☞ 31

2. Using a dried soft cloth, wipe the Image Transfer Belt [1].

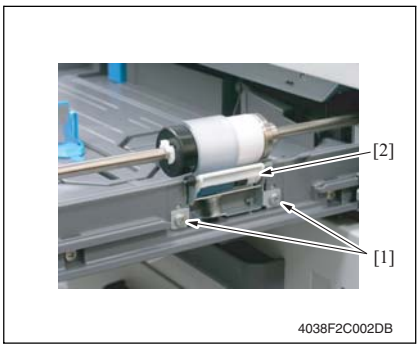
NOTE

- **If it is difficult to clean with dried soft cloth, dampen a soft cloth with a solvent.**
- **Do not wipe out with water.**
- **When solvent is used to dampen a cloth, do not use the ones other than shown below: isopropyl alcohol, ethyl alcohol, PPC Cleaner, Sol mix AP-7.**
- **After cleaned with the solvent, make copies more than 28-piece of A3 white paper to eliminate the image noise.**

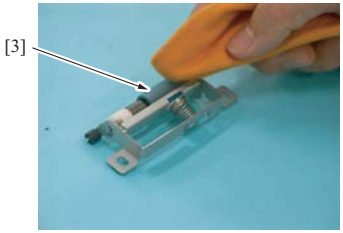
6.4.3 Tray 1 Feed Roller

1. Slide out the Tray 1.
2. Using a soft cloth dampened with alcohol, wipe the Tray 1 Feed Roller [1] clean of dirt.

6.4.4 Tray 1 Separation Roller



1. Slide out the Tray 1.
2. Remove two Screws [1], and remove the Tray 1 Paper Separation Roller mounting bracket Assy [2].

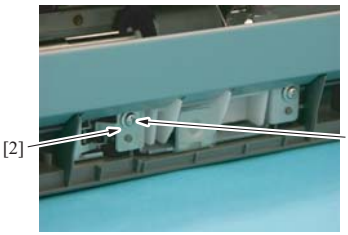


3. Using a soft cloth dampened with alcohol, wipe the Tray 1 Separation Roller [3] clean of dirt.

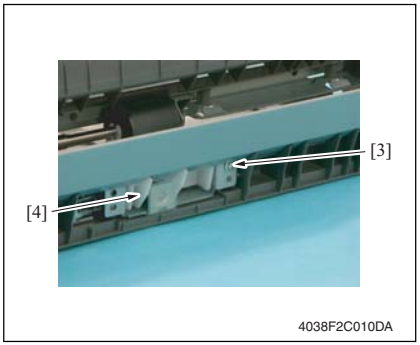
6.4.5 Bypass Tray Feed Roller

1. Remove the Multi Bypass Unit.
☞ 87
2. Using a soft cloth dampened with alcohol, wipe the Bypass Tray Feed Roller [1].

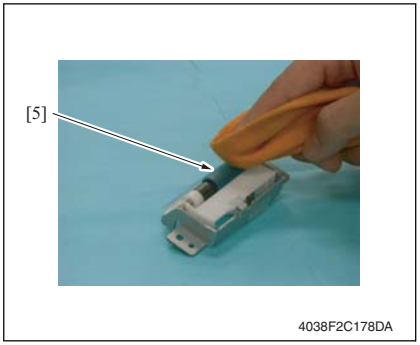
6.4.6 Bypass Tray Separation Roller



1. Remove the Multi Bypass Unit.
☞ 87
2. Remove the Screws [1], and remove the Ground terminal [2].

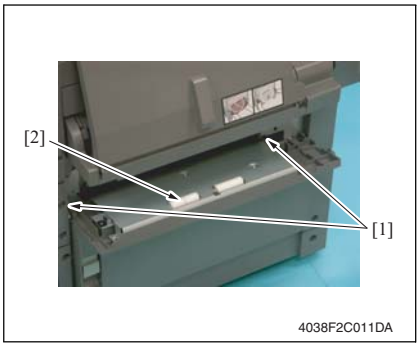


3. Remove the Screw [3], and remove the Bypass Tray Separation Roller Assy [4].

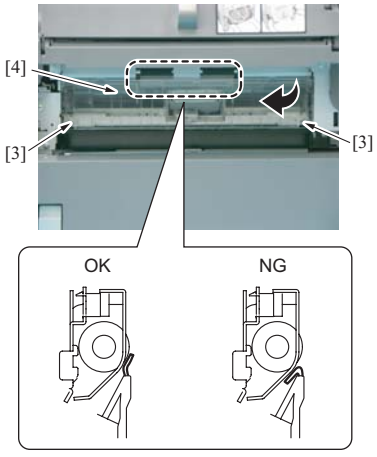


4. Using the soft cloth dampened with alcohol, wipe the Bypass Paper Separation Roller [5].

6.4.7 Tray 2 Feed Roller/Tray 2 Pick-up Roller



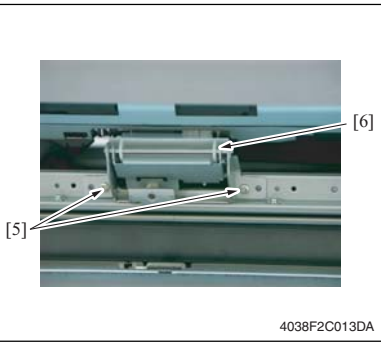
1. Slide out the Tray 2.
2. Open the Vertical transport door.
3. Remove two Claws [1], and remove the Vertical transport door [2].



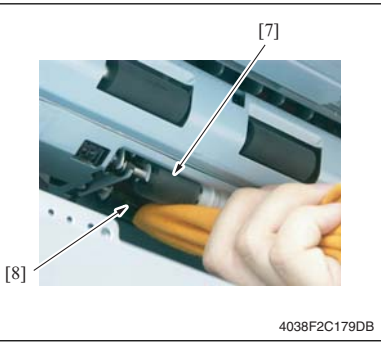
4. Remove two Screws [3], and remove the Jam processing cover [4].

NOTE

- **Make sure the position of the Mylar when installing the Jam processing cover.**

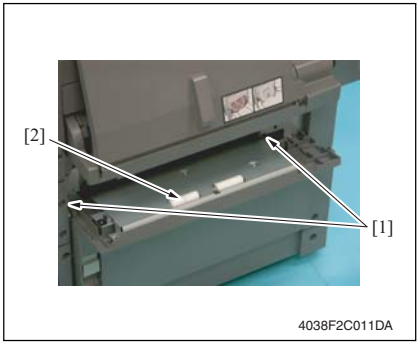


5. Remove two Screws [5] and the Tray 2 Separation Roller installation plate Assy [6].

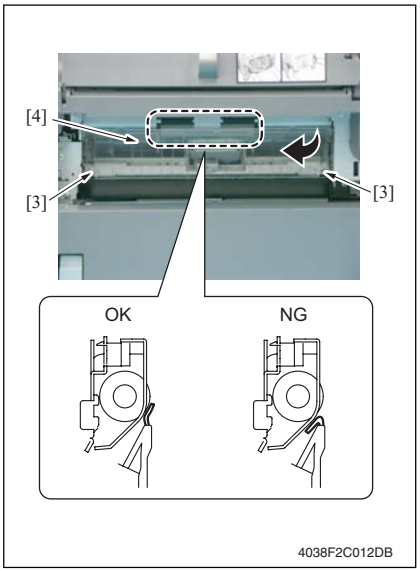


6. Using a soft cloth dampened with alcohol, wipe the Tray 2 Feed Roller [7] and the Tray 2 Pick-up Roller [8].

6.4.8 Tray 2 Separation Roller



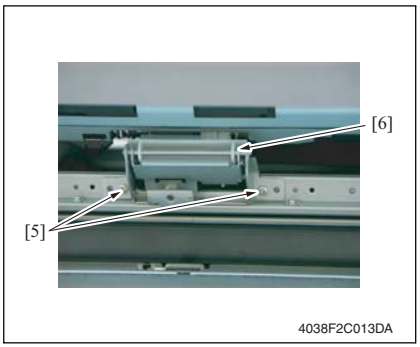
1. Slide out the Tray 2.
2. Open the Vertical transport door.
3. Remove two Claws [1], and remove the Vertical transport door [2].



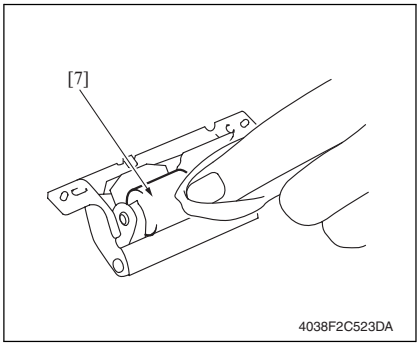
4. Remove two Screws [3], and remove the Jam processing cover [4].

NOTE

- **Make sure the position of the Mylar when installing the Jam processing cover.**

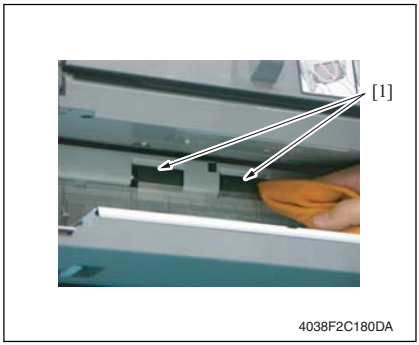


5. Remove two Screws [5] and the Tray 2 Separation Roller installation plate Assy [6].



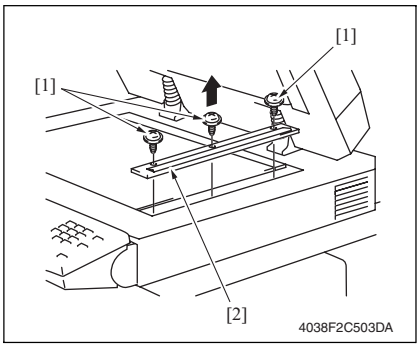
6. Using a soft cloth dampened with alcohol, wipe the Tray 2 Separation Roller [7].

6.4.9 Tray 2 Transport Roller

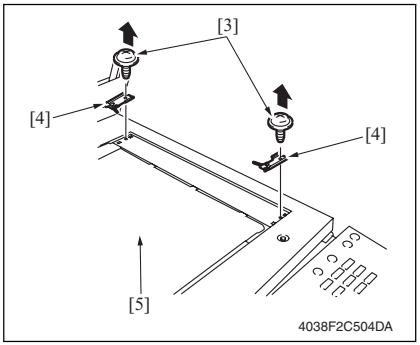


1. Open the Vertical Transport Door.
2. Using a soft cloth dampened with alcohol, wipe the Tray 2 Transport Roller [1].

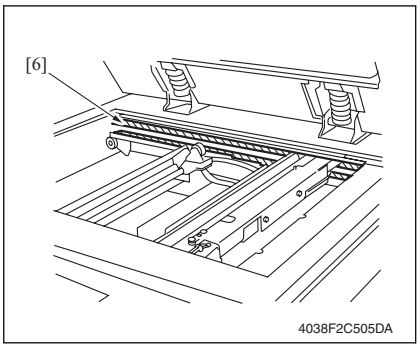
6.4.10 Scanner Rail



1. Remove three Screws [1] and the IR Upper Right Cover [2].



2. Remove two Screws [3] and two Original Glass fixing brackets [4] (at the front and rear).
3. Remove the Original Glass [5].

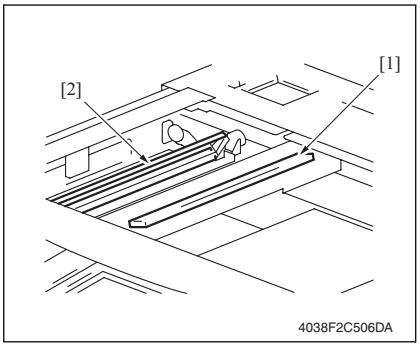


4. Using a soft cloth dampened with alcohol, wipe the Scanner Rails [6] clean of dirt.

NOTE

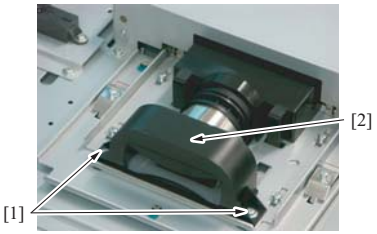
- **Apply lubricant after cleaning.**

6.4.11 Mirrors (1st/2nd/3rd)



1. Remove the Original Glass.
☞ 56
2. Using a soft cloth dampened with alcohol, wipe the Mirror 1 [1] and Mirror 2/3 [2].

6.4.12 Lens



4038F2C181DA

1. Remove the Original Glass.
☞ 56
2. Remove two Screws [1] and Lens cover [2].

4038F2C182DA

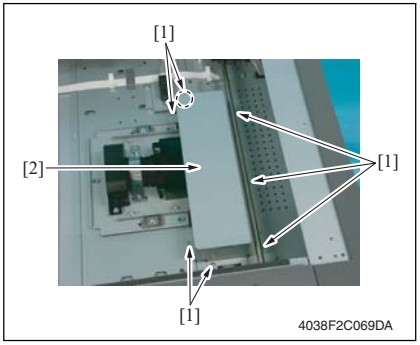
3. Using a soft cloth dampened with alcohol, wipe the Lens [3] clean of dirt.

6.4.13 Original Glass

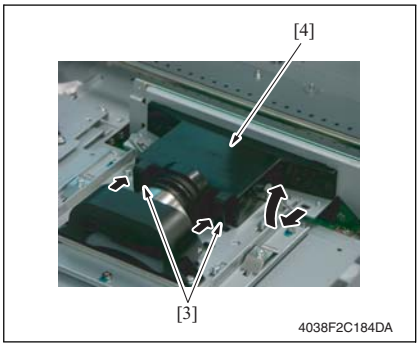
4038F2C183DA

1. Using a soft cloth dampened with alcohol, wipe the Original Glass [1] clean of dirt.

6.4.14 CCD Sensor



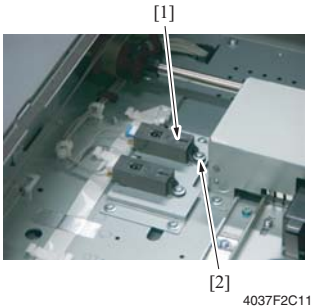
1. Remove the Original Glass.
☞ 56
2. Remove seven Screws [1] and CCD Unit protective cover [2].



3. Remove two hooks [3] and the lens cover [4].

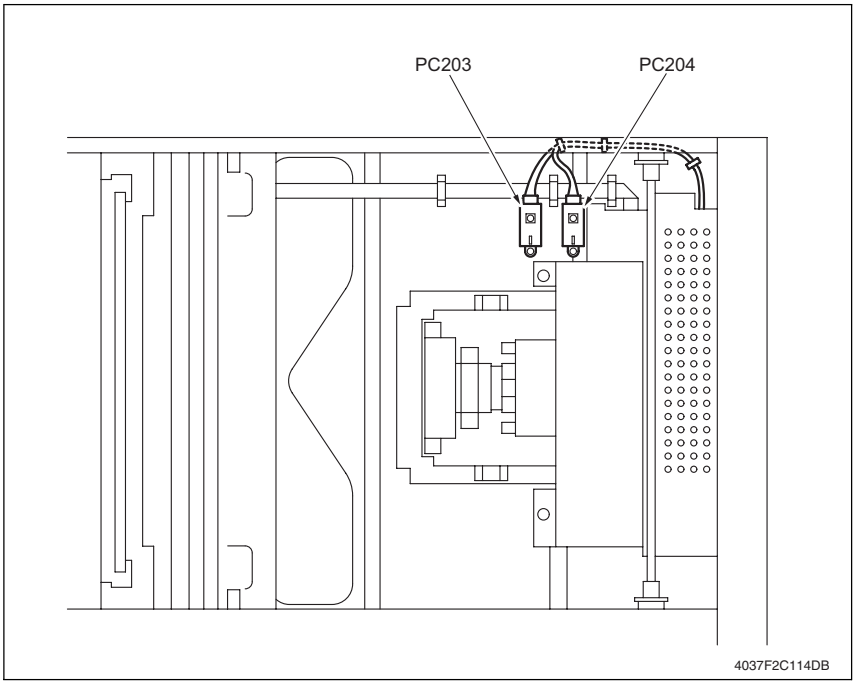
4. Using a soft lint free cloth dampened with alcohol, wipe the CCD Sensor [5] clean of dirt.

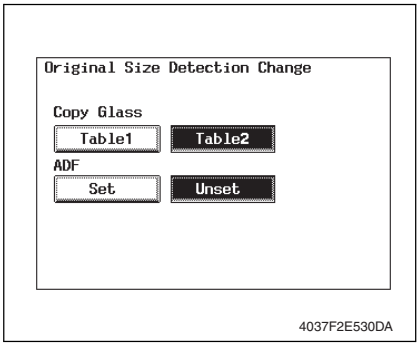
6.5 Mount the original size detecting sensor/2 (PC204)



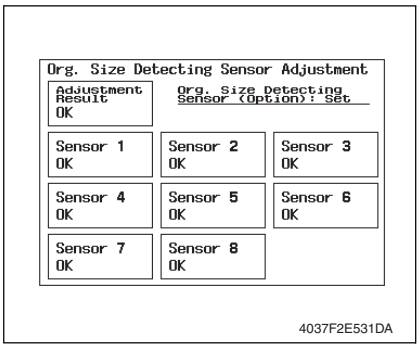
1. Remove the Original glass.
2. Using the screw [2], mount the Original Size Detection Sensor/2 (PC204) [1] and fix it.

<How to set the Harness>





3. Select [Service Mode] → [System 1] → [Original Size Detection], and set the Original Glass to [Table2].



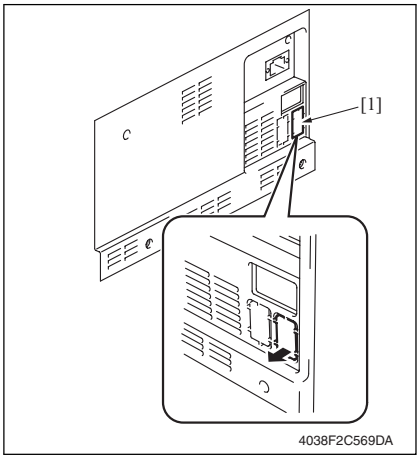
4. Select [Service Mode] → [Machine] → [Org. Size Detecting Sensor Adj].

☞ 234

5. Check to make sure that the [Org. Size Detecting Sensor (Option): Set] is displayed on the Original Size Detection Sensor Adjustment screen.

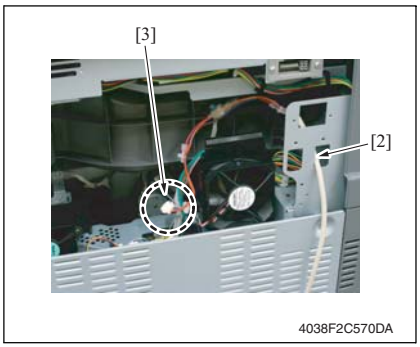
6.6 Option counter

6.6.1 Installation method for the Key Counter

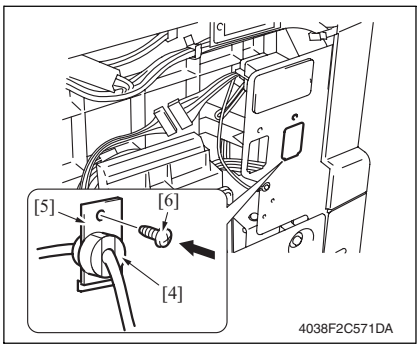


1. cut out the Knockouts [1] of the Upper Rear Cover.
2. Remove the Upper Rear Cover.

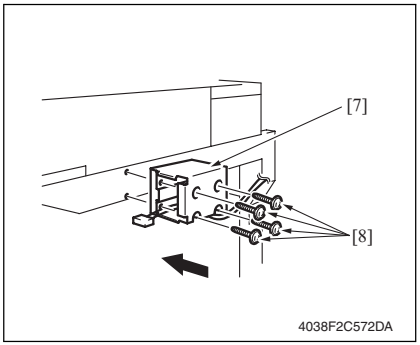
☞ 57



3. Pass the Key Counter Harness [2] through the hole.
4. Mount the Connector [3].



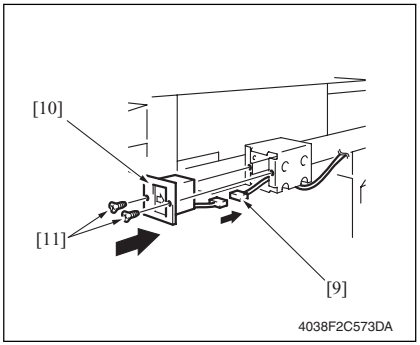
5. Secure the Counter cable [4] and cable holder [5] with one screw [6].
6. Reinstall the Upper Rear Cover.



7. Using four screws [8], secure the Counter Mounting Bracket [7].

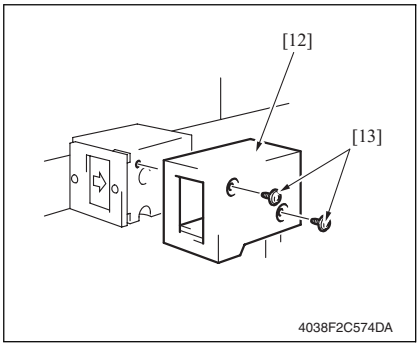
NOTE

- **Secure the Counter Mounting Bracket passing the connector into the bracket.**
- **Use the four long screws (9646 0418 14: M4x18) in the Key Counter Kit to secure the Counter Mounting Bracket.**
  When installing the Key Counter to the other products, use the short screws (9646 0408 14: M4x8).

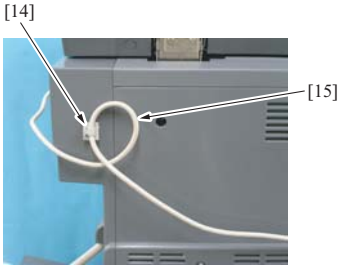


8. Connect the Key Counter Socket connector [9].

9. Using two screws [11], secure the counter socket [10].



10. Using two screws [13], secure the Key Counter Cover [12].



4038F2C575DA

11. Fix the harness [15] with the cable clamp [14] as shown in the left figure.

12. Select Service Mode → [Billing Setting] → [Management Function Choice] → [Key Counter]. Press [Set], and set Color Mode and Message.

☞ For details on setting, see “Adjustment/Setting.”

Adjustment/Setting

7. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by " ".

Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

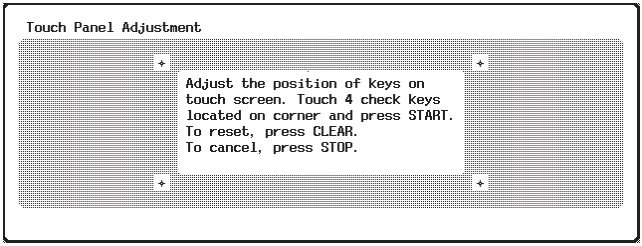
- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The Original Glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.**
- **Special care should be used when handling the Fusing Unit which can be extremely hot.**
- **The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC Drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

8. Utility Mode

8.1 Touch Panel Adjustment

Functions	• To adjust the position of the Touch Panel display
Use	• Make this adjustment if the Touch Panel is slow to respond to a pressing action. • Use during the setup procedure.
Setting/ Procedure	*1.* Press the Accessibility key. *2.* Touch [Touch Panel Adj.]. *3.* Using the tip of a pen or similar object, touch the four crosses (+) on the screen in sequence. • These crosses may be touched in any order; but be sure to touch the center of each cross. • Use care not to damage the screen surface with the tip of the pen.  4037F3E512DA *4.* Touching all four crosses will turn the Start key ON in green. *5.* Press the Start key.

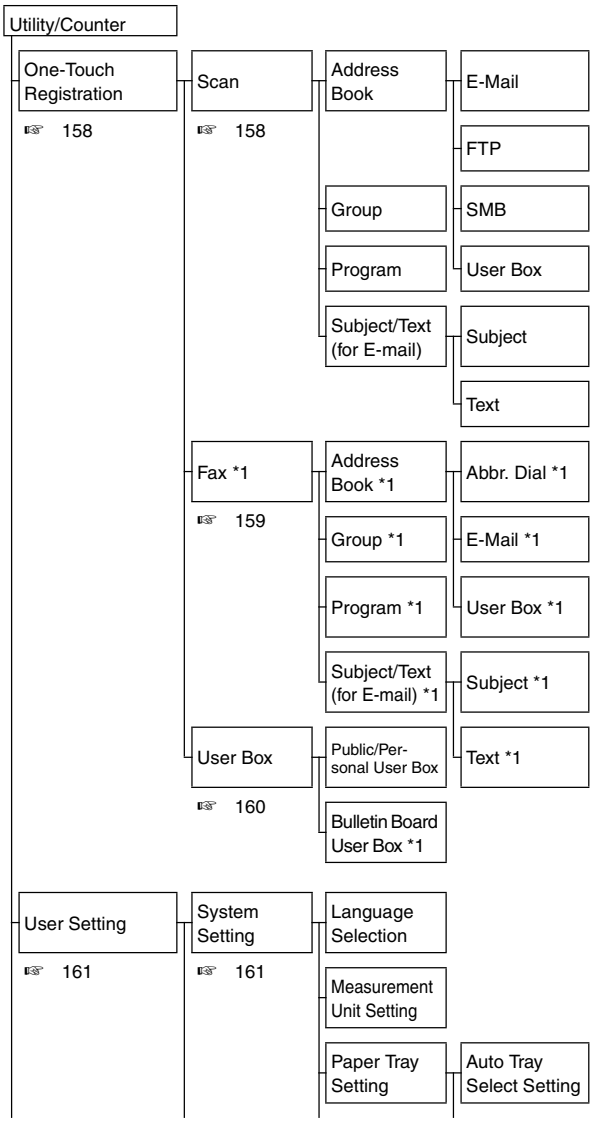
8.2 Utility Mode function tree

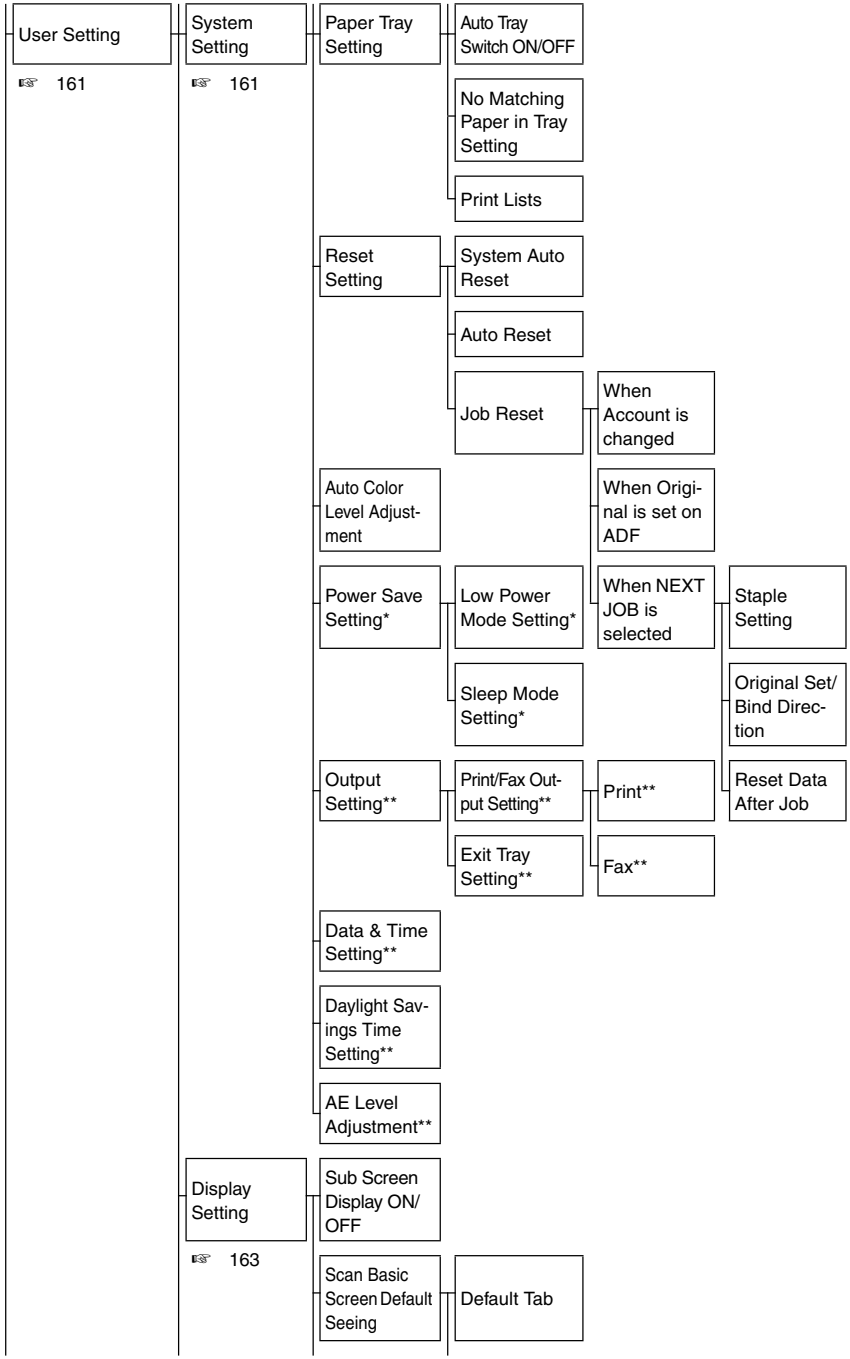
* The function tree is shown to comply with the format displayed on the screen.

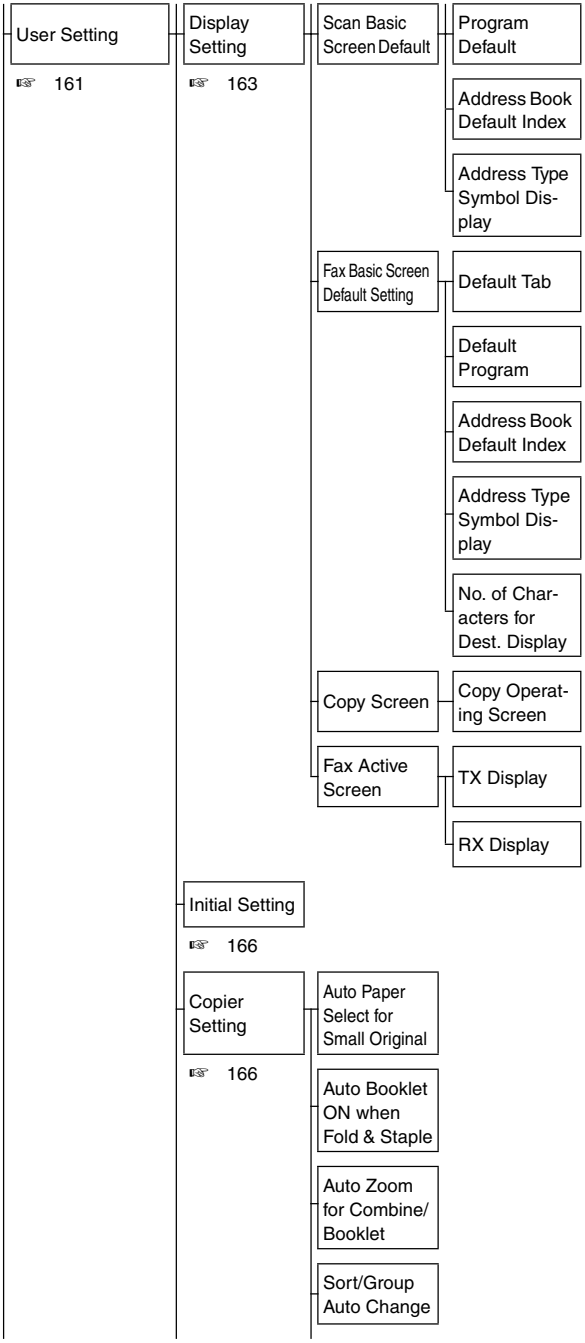
NOTE

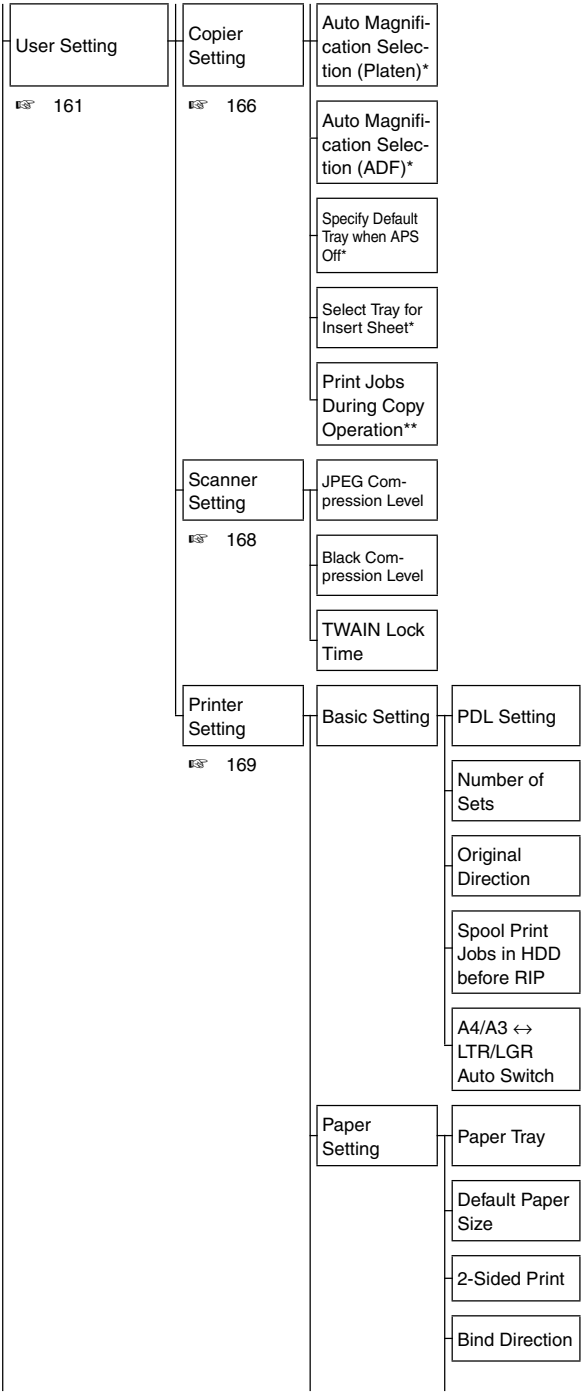
- **Keys displayed on screens are different depending on the setting.**
- **For displaying the keys with *, ** marks, see 223 "Administrator Security Level."**
- **For displaying the keys with *** marks, see 298 "Administrator Feature Level."**

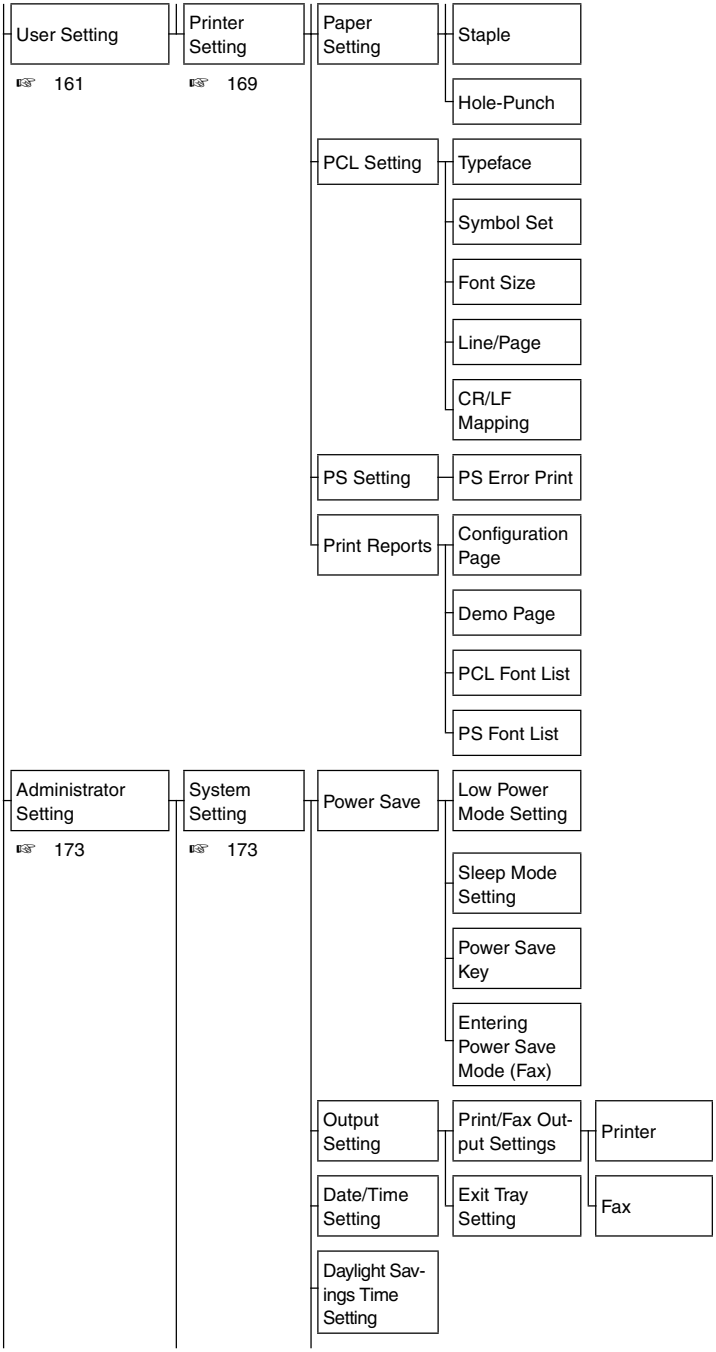
*1: It is displayed only when the optional Fax kit FK-502 is mounted.
*2: It is displayed when the certification is issued at PageScope Web Connection.

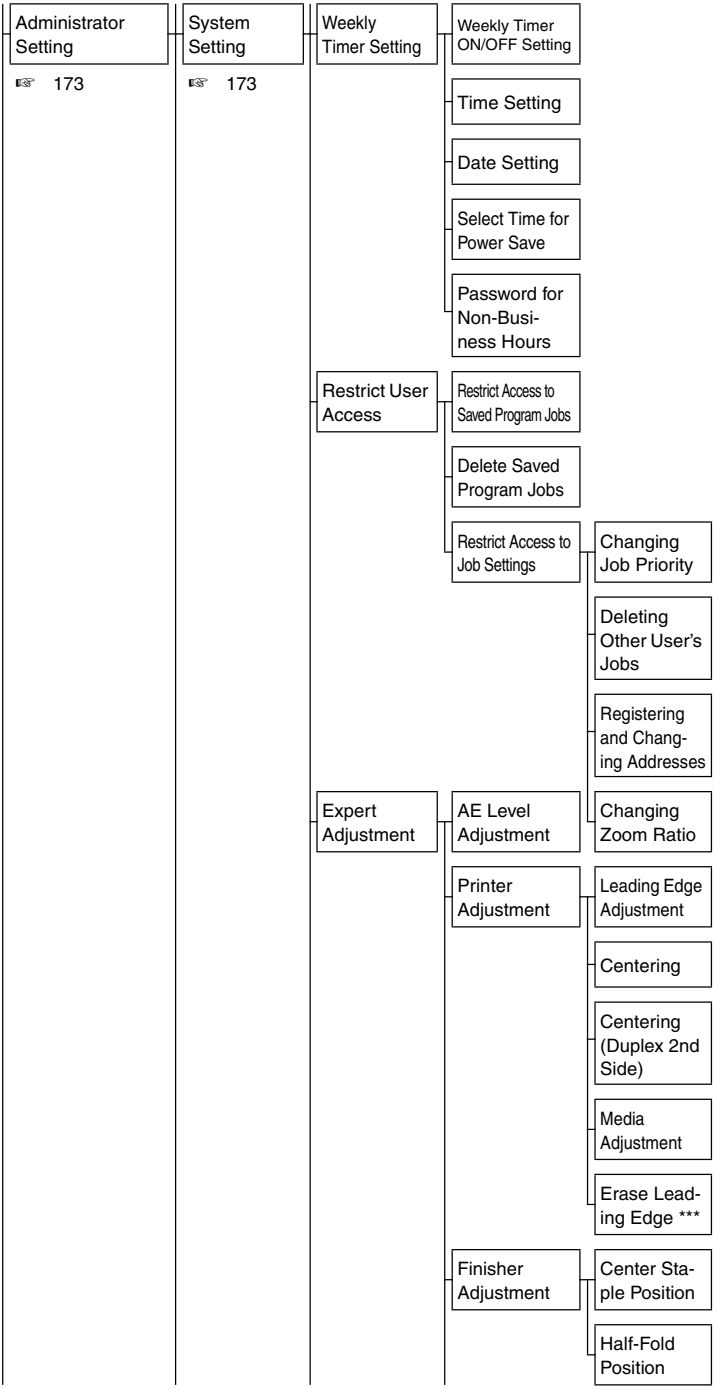


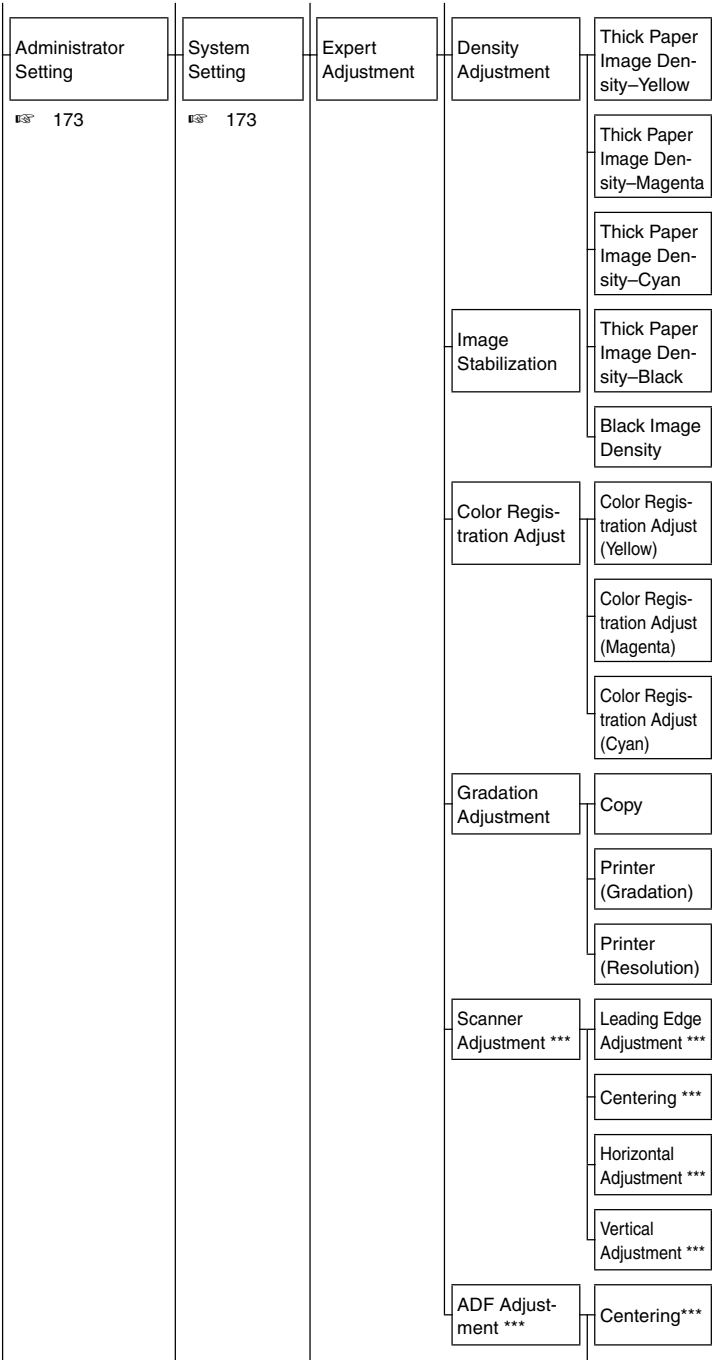

User Setting
☞ 161
System Setting
☞ 161
Paper Tray Setting
Auto Tray Switch ON/OFF
No Matching Paper in Tray Setting
Print Lists
Reset Setting
System Auto Reset
Auto Reset
Job Reset
When Account is changed
When Original is set on ADF
Auto Color Level Adjustment
Power Save Setting*
Low Power Mode Setting*
Sleep Mode Setting*
When NEXT JOB is selected
Staple Setting
Original Set/ Bind Direction
Reset Data After Job
Output Setting**
Print/Fax Output Setting**
Exit Tray Setting**
Print**
Fax**
Data & Time Setting**
Daylight Savings Time Setting**
AE Level Adjustment**
Display Setting
☞ 163
Sub Screen Display ON/ OFF
Scan Basic Screen Default Seeing
Default Tab

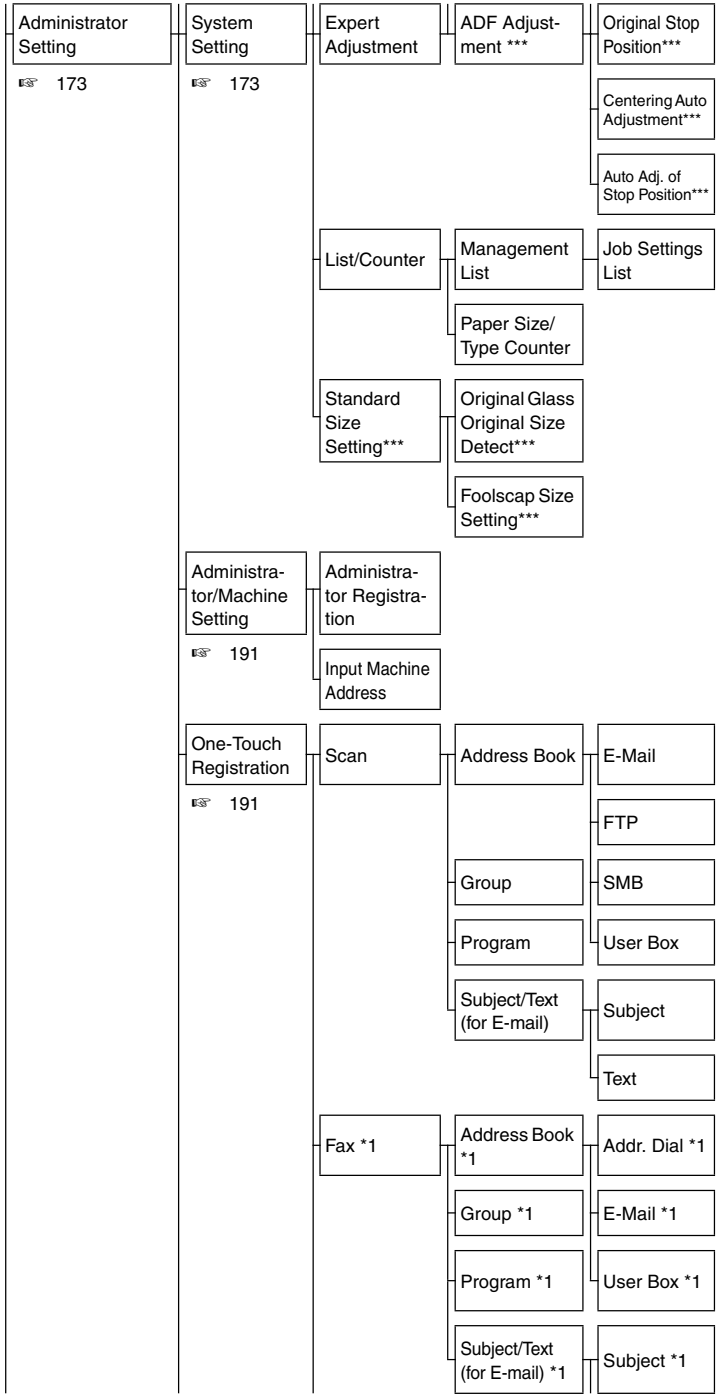

User Setting
☞ 161
Display Setting
☞ 163
Scan Basic Screen Default
Program Default
Address Book Default Index
Address Type Symbol Display
Fax Basic Screen Default Setting
Default Tab
Default Program
Address Book Default Index
Address Type Symbol Display
No. of Characters for Dest. Display
Copy Screen
Copy Operating Screen
Fax Active Screen
TX Display
RX Display
Initial Setting
☞ 166
Copier Setting
☞ 166
Auto Paper Select for Small Original
Auto Booklet ON when Fold & Staple
Auto Zoom for Combine/ Booklet
Sort/Group Auto Change

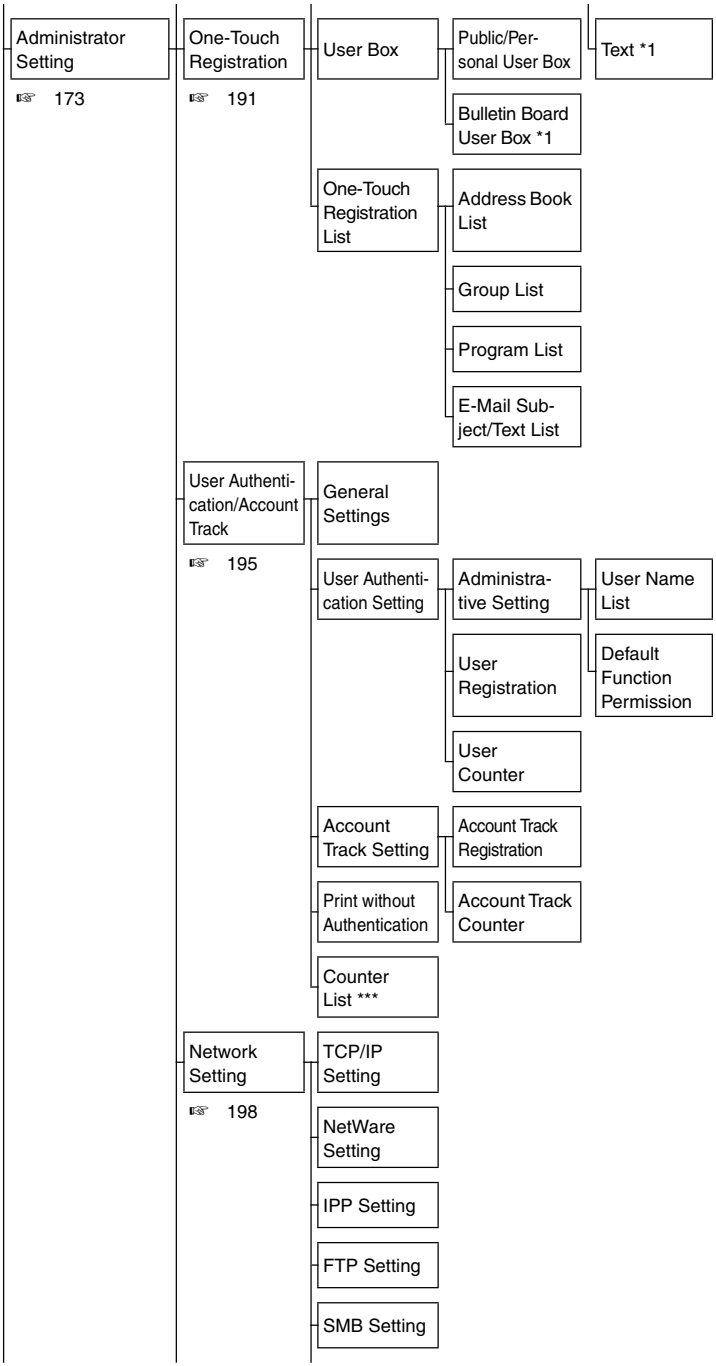

User Setting
☞ 161
Copier Setting
☞ 166
Auto Magnification Selection (Platen)*
Auto Magnification Selection (ADF)*
Specify Default Tray when APS Off*
Select Tray for Insert Sheet*
Print Jobs During Copy Operation**
Scanner Setting
☞ 168
JPEG Compression Level
Black Compression Level
TWAIN Lock Time
Printer Setting
☞ 169
Basic Setting
PDL Setting
Number of Sets
Original Direction
Spool Print Jobs in HDD before RIP
A4/A3 ↔ LTR/LGR Auto Switch
Paper Setting
Paper Tray
Default Paper Size
2-Sided Print
Bind Direction

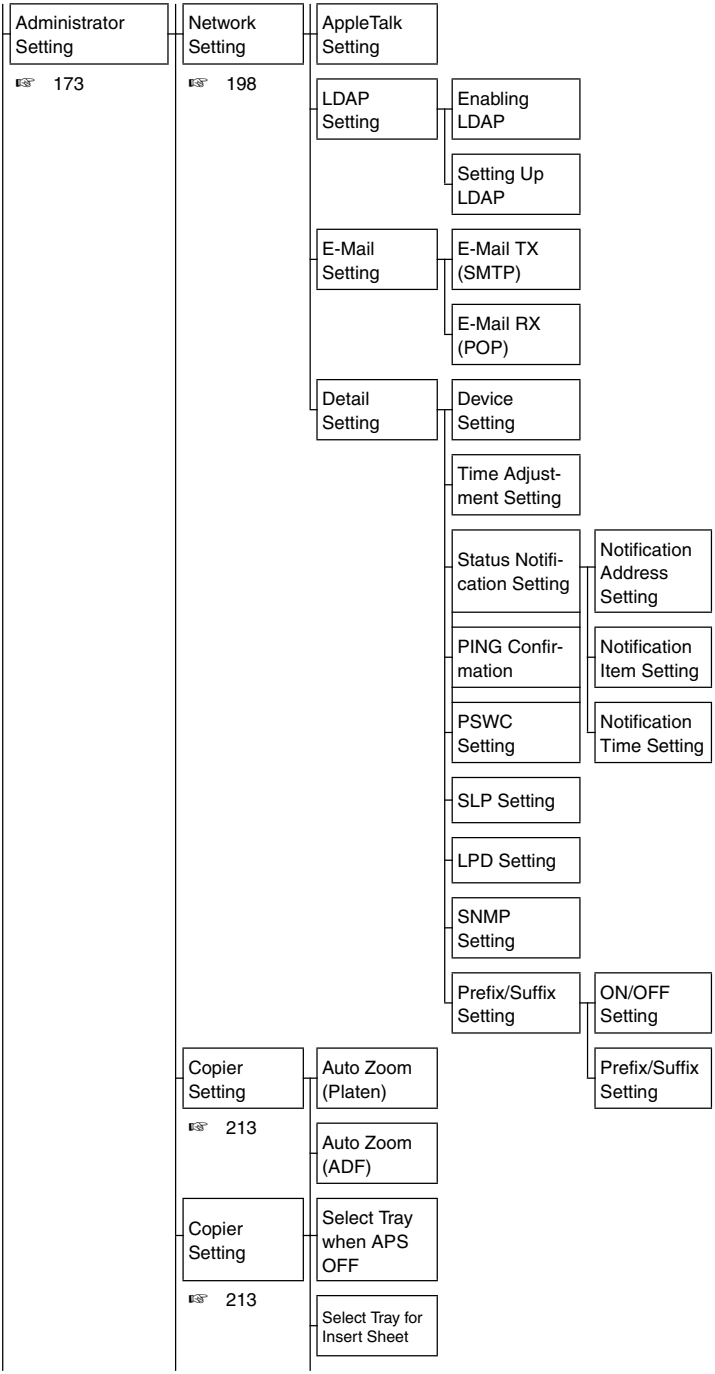

User Setting
☞ 161
Printer Setting
☞ 169
Paper Setting
Staple
Hole-Punch
PCL Setting
Typeface
Symbol Set
Font Size
Line/Page
CR/LF Mapping
PS Setting
PS Error Print
Print Reports
Configuration Page
Demo Page
PCL Font List
PS Font List
Administrator Setting
☞ 173
System Setting
☞ 173
Power Save
Low Power Mode Setting
Sleep Mode Setting
Power Save Key
Entering Power Save Mode (Fax)
Output Setting
Print/Fax Output Settings
Printer
Date/Time Setting
Exit Tray Setting
Fax
Daylight Savings Time Setting

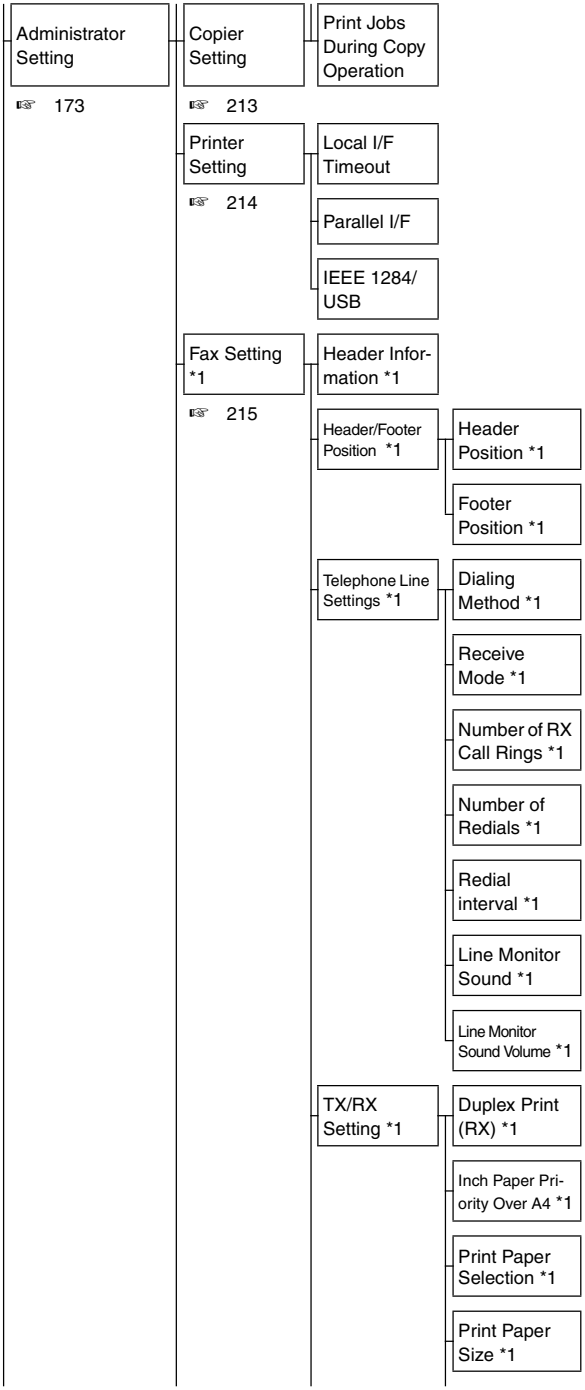

Administrator Setting
☞ 173
System Setting
☞ 173
Weekly Timer Setting
Weekly Timer ON/OFF Setting
Time Setting
Date Setting
Select Time for Power Save
Password for Non-Business Hours
Restrict User Access
Restrict Access to Saved Program Jobs
Delete Saved Program Jobs
Restrict Access to Job Settings
Changing Job Priority
Deleting Other User's Jobs
Registering and Changing Addresses
Expert Adjustment
AE Level Adjustment
Changing Zoom Ratio
Printer Adjustment
Leading Edge Adjustment
Centering
Centering (Duplex 2nd Side)
Media Adjustment
Erase Leading Edge ***
Finisher Adjustment
Center Staple Position
Half-Fold Position

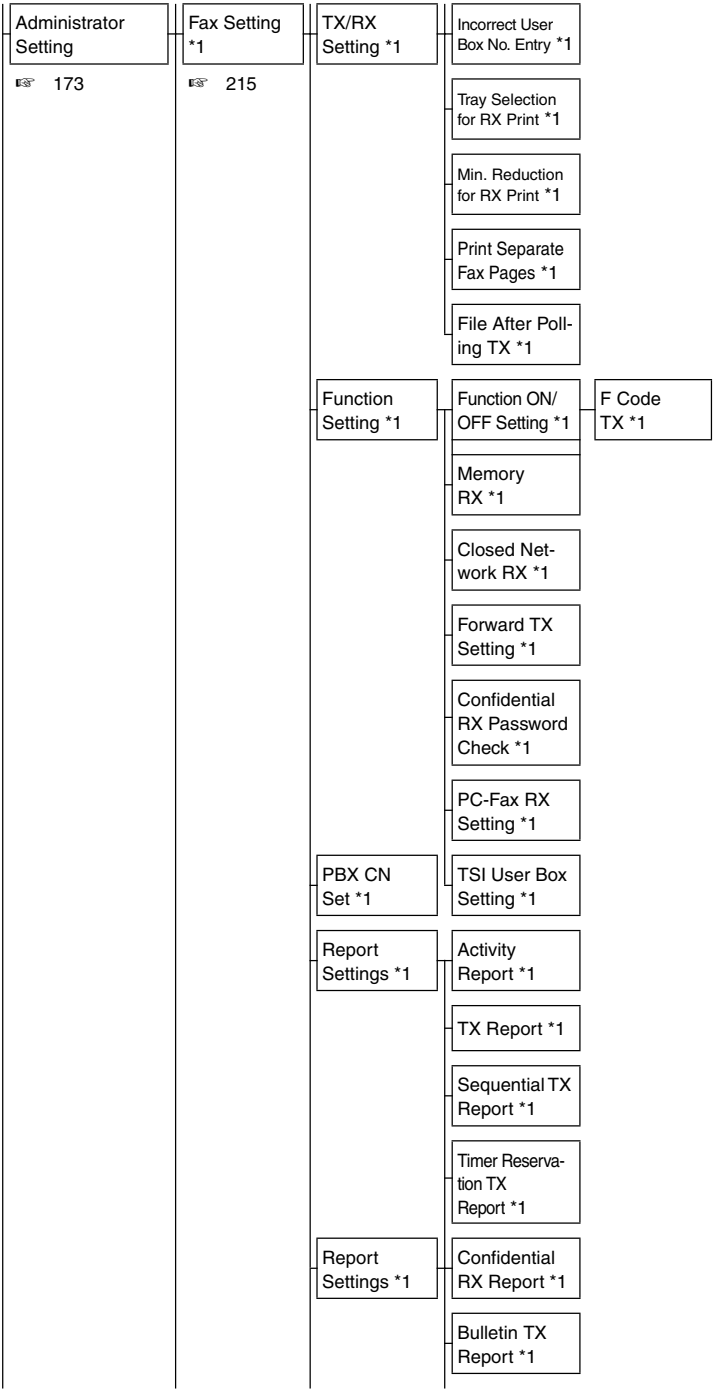

Administrator Setting
☞ 173
System Setting
☞ 173
Expert Adjustment
Density Adjustment
Thick Paper Image Density–Yellow
Thick Paper Image Density–Magenta
Thick Paper Image Density–Cyan
Image Stabilization
Thick Paper Image Density–Black
Black Image Density
Color Registration Adjust
Color Registration Adjust (Yellow)
Color Registration Adjust (Magenta)
Color Registration Adjust (Cyan)
Gradation Adjustment
Copy
Printer (Gradation)
Printer (Resolution)
Scanner Adjustment ***
Leading Edge Adjustment ***
Centering ***
Horizontal Adjustment ***
Vertical Adjustment ***
ADF Adjustment ***
Centering***

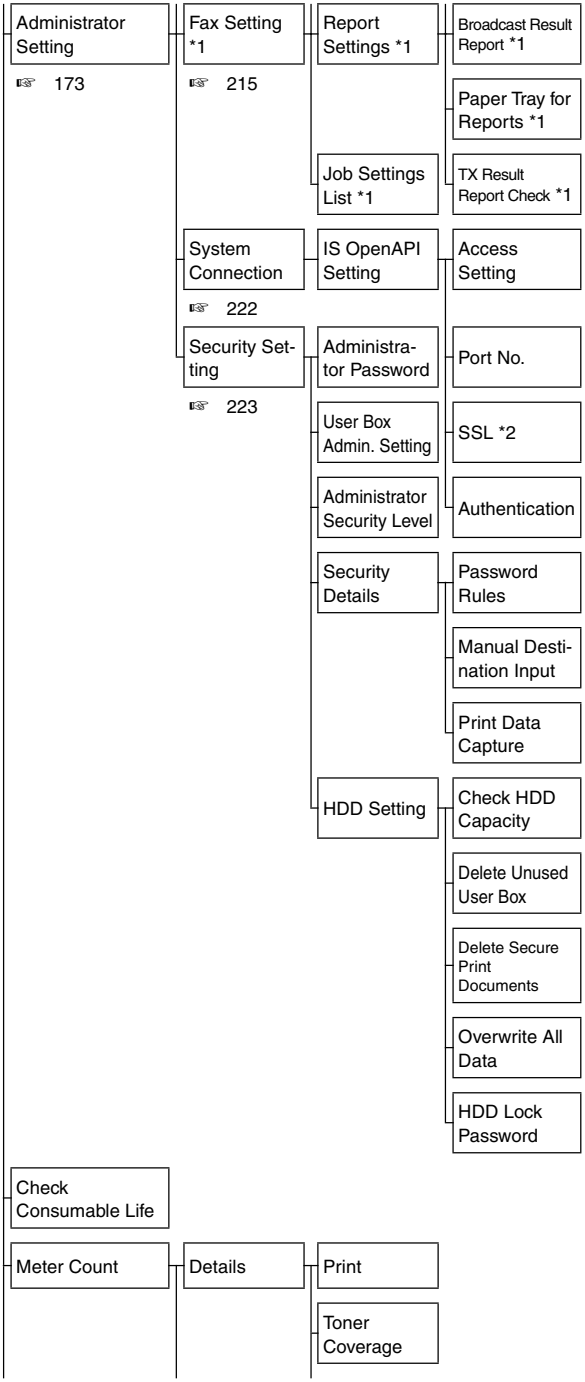

Administrator Setting
☞ 173
System Setting
☞ 173
Expert Adjustment
ADF Adjust-ment ***
Original Stop Position***
Centering Auto Adjustment***
Auto Adj. of Stop Position***
List/Counter
Management List
Job Settings List
Paper Size/ Type Counter
Standard Size Setting***
Original Glass Original Size Detect***
Foolscap Size Setting***
Administra-tor/Machine Setting
☞ 191
Administra-tor Registra-tion
Input Machine Address
One-Touch Registration
☞ 191
Scan
Address Book
E-Mail
FTP
Group
SMB
Program
User Box
Subject/Text (for E-mail)
Subject
Text
Fax *1
Address Book *1
Addr. Dial *1
Group *1
E-Mail *1
Program *1
User Box *1
Subject/Text (for E-mail) *1
Subject *1

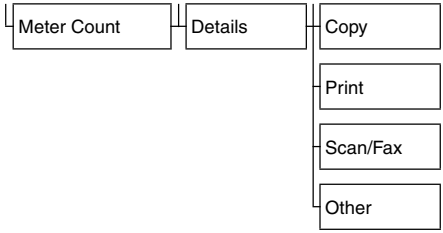

Administrator Setting
☞ 173
One-Touch Registration
☞ 191
User Box
Public/Personal User Box
Text *1
Bulletin Board User Box *1
One-Touch Registration List
Address Book List
Group List
Program List
E-Mail Subject/Text List
User Authentication/Account Track
☞ 195
General Settings
User Authentication Setting
Administrative Setting
User Name List
User Registration
Default Function Permission
User Counter
Account Track Setting
Account Track Registration
Print without Authentication
Account Track Counter
Counter List ***
Network Setting
☞ 198
TCP/IP Setting
NetWare Setting
IPP Setting
FTP Setting
SMB Setting


Administrator Setting
☞ 173
Network Setting
☞ 198
AppleTalk Setting
LDAP Setting
Enabling LDAP
Setting Up LDAP
E-Mail Setting
E-Mail TX (SMTP)
E-Mail RX (POP)
Detail Setting
Device Setting
Time Adjust-ment Setting
Status Notifi-cation Setting
Notification Address Setting
PING Confir-mation
Notification Item Setting
PSWC Setting
Notification Time Setting
SLP Setting
LPD Setting
SNMP Setting
Prefix/Suffix Setting
ON/OFF Setting
Prefix/Suffix Setting
Copier Setting
☞ 213
Auto Zoom (Platen)
Auto Zoom (ADF)
Copier Setting
☞ 213
Select Tray when APS OFF
Select Tray for Insert Sheet


Administrator Setting
☞ 173
Copier Setting
☞ 213
Print Jobs During Copy Operation
Printer Setting
☞ 214
Local I/F Timeout
Parallel I/F
IEEE 1284/ USB
Fax Setting *1
☞ 215
Header Information *1
Header/Footer Position *1
Header Position *1
Footer Position *1
Telephone Line Settings *1
Dialing Method *1
Receive Mode *1
Number of RX Call Rings *1
Number of Redials *1
Redial interval *1
Line Monitor Sound *1
Line Monitor Sound Volume *1
TX/RX Setting *1
Duplex Print (RX) *1
Inch Paper Priority Over A4 *1
Print Paper Selection *1
Print Paper Size *1


Administrator Setting
☞ 173
Fax Setting *1
☞ 215
TX/RX Setting *1
Incorrect User Box No. Entry *1
Tray Selection for RX Print *1
Min. Reduction for RX Print *1
Print Separate Fax Pages *1
File After Polling TX *1
Function Setting *1
Function ON/OFF Setting *1
F Code TX *1
Memory RX *1
Closed Network RX *1
Forward TX Setting *1
Confidential RX Password Check *1
PC-Fax RX Setting *1
PBX CN Set *1
TSI User Box Setting *1
Report Settings *1
Activity Report *1
TX Report *1
Sequential TX Report *1
Timer Reservation TX Report *1
Report Settings *1
Confidential RX Report *1
Bulletin TX Report *1

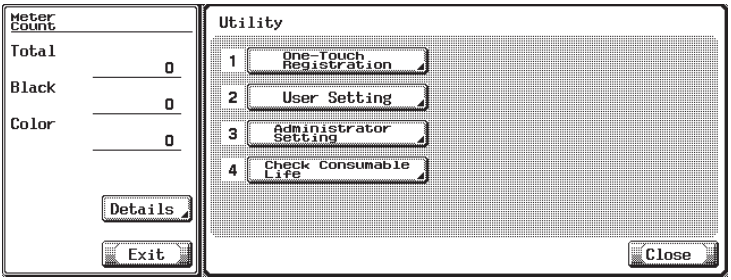

Administrator Setting
☞ 173
Fax Setting *1
☞ 215
Report Settings *1
Broadcast Result Report *1
Paper Tray for Reports *1
Job Settings List *1
TX Result Report Check *1
System Connection
☞ 222
IS OpenAPI Setting
Access Setting
Security Setting
☞ 223
Administrator Password
Port No.
User Box Admin. Setting
SSL *2
Administrator Security Level
Authentication
Security Details
Password Rules
Manual Destination Input
Print Data Capture
HDD Setting
Check HDD Capacity
Delete Unused User Box
Delete Secure Print Documents
Overwrite All Data
HDD Lock Password
Check Consumable Life
Meter Count
Details
Print
Toner Coverage


Meter Count
Details
Copy
Print
Scan/Fax
Other

8.3 Utility Mode function setting procedure

8.3.1 Procedure

1. Press the Utility/Counter key.
2. The Utility mode screen will appear.



4037F3E522DA

8.3.2 Exiting

- Touch the [Close] key.

8.3.3 Changing the setting value in Utility Mode functions

- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value.
  (To change the setting value, first press the Clear key before making an entry.)

8.4 One-Touch Registration

8.4.1 Scan

A. Address Book

(1) E-Mail

Functions Use	• To register/change e-mail address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(2) FTP

Functions Use	• To register/change FTP address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(3) SMB

Functions Use	• To register/change SMB address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(4) User Box

Functions Use	• To register/change the Box address when storing the scanned data in the box in the hard disk in the main unit.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting. • At least one User Box must be registered for registering a Box address.

B. Group

Functions Use	• To register/change a group to send scanned data simultaneously.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed group to check, edit or delete them. • At least one address must be registered for registering a new group.

C. Program

Functions Use	• To register/change the Scan Program.
Setting/ Procedure	• Select any program No. to check, edit, or delete the setting.

D. Subject/Text (for E-mail)

(1) Subject

Functions	• To register the e-mail subject when transmitting the scanned data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to detail check, edit or delete the setting. • The subject can be set as default by selecting the subject displayed on the screen and pressing [Set as Default].

(2) Text

Functions	• To register the e-mail message when transmitting the scanned data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to detail check or delete the setting. • The text can be set as default by selecting the text displayed on the screen and pressing [Set as Default].

8.4.2 Fax

- Settings are available only when the Optional FAX kit (FK-502) is mounted.

A. Address Book

(1) Abbr. Dial

Functions	• To register/change the Fax numbers.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(2) E-Mail

Functions	• To register/change the e-mail address when transmitting the Fax data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(3) User Box

Functions	• To register/change the Box address when storing the Fax original in the box of the hard disk in the machine.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting. • At least one user box should be registered in order to register the Box address.

B. Group

Functions	• To register/change a group of addresses to send Fax data simultaneously.
Use	
Setting/ Procedure	• A new group can be registered by touching [New]. • Select any displayed group to check, edit or delete the setting. • At least one address should be registered in order to register the group.

C. Program

Functions	• To register/change the Fax program.
Use	
Setting/ Procedure	• Select any program No. to check, edit or delete the setting.

D. Subject/Text (for E-mail)

(1) Subject

Functions	• To register the e-mail subject when transmitting the Fax original.
Use	
Setting/ Procedure	• A new subject can be registered by touching [New]. • Select any displayed subject to detail check, edit or delete the setting. • The subject can be set as default by selecting the subject displayed on the screen and pressing [Set as Default].

(2) Text

Functions	• To register the e-mail message when transmitting the Fax original.
Use	
Setting/ Procedure	• A new message can be registered by touching [New]. • Select any displayed message to detail check or delete the setting. • The subject can be set as default by selecting the text displayed on the screen and pressing [Set as Default].

8.4.3 User Box

A. Public/Personal User Box

Functions	• To register/change the box for storing text data in the hard disk of the machine.
Use	• Shared or personal box can be registered according to its intended use.
Setting/ Procedure	• A new box can be registered by touching [New]. • Select any displayed box to change or delete it.

B. Bulletin Board User Box

Functions	• To register/change the Bulletin Board User Box.
Use	
Setting/ Procedure	• A new box can be registered by touching [New]. • Select any displayed box to change or delete it.

8.5 User Setting

8.5.1 System Setting

A. Language Selection

Functions	• To select the language on the LCD display.
Use	• To change the language on the control panel to another language.
Setting/ Procedure	• The language options depend on the marketing area selected in [Marketing Area] available from [System 1] under Service Mode.

B. Measurement Unit Setting

Functions	• To select the unit displayed on the LCD display.
Use	• To change the unit displayed on the control panel.
Setting/ Procedure	• The default setting varies depending on the marketing area mm (Numerical Value) inch (Numerical Value) inch (Fraction)

C. Paper Tray Setting

(1) Auto Tray Select Setting

Functions	• To set the Tray for automatic selection when APS is being set. • To establish the priority for switching the Tray when ATS is being set.
Use	• To specify the Tray to be used when APS is being set. • To establish the priority of the Tray when ATS is being set.
Setting/ Procedure	• Select the Tray on the [Auto Tray Select] screen. • Set the priority on the [Tray Priority] screen.

(2) Auto Tray Switch ON/OFF

Functions	• To set whether to automatically switch to another Tray with same size paper when the Paper Feed Tray runs out of paper during printing.
Use	• To switch the Paper Feed Tray automatically.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

(3) No Matching Paper in Tray Setting

Functions	• To set whether to switch to another Tray automatically when the specified Tray runs out of paper during printing. Stop Printing (Tray Fixed) : It stops printing when the specified Tray runs out of paper. Switch Trays (Tray Priority): To switch to another Tray with the specified paper and print when the Tray is out of paper
Use	
Setting/ Procedure	• The default setting is Stop Printing (Tray Fixed). “Stop Printing (Tray Fixed)” Switch Trays (Tray Priority)

(4) Print Lists

Functions Use	• To set the Paper Feed Tray for output the list for the Meter count or the Unit check.
Setting/ Procedure	• The default setting is “Tray 1.”

D. Reset Setting

(1) System Auto Reset

Functions	• To set the period of time until System Auto Reset starts functioning.
Use	• To change the period of time until System Auto Reset starts functioning.
Setting/ Procedure	<Priority Mode> • To set the functions displayed during System Auto Reset from Copier, Scanner, and the Fax. • The default setting is Copy. “Copy” Scan Fax <System Auto Reset Time> • The default setting is 1 min. “1 min.” (1 to 9, OFF)

(2) Auto Reset

Functions	• To set the period of time until Auto Reset starts functioning in “Copier”, “Scanner”, and the “Fax.”
Use	• To change the period of time until Auto Reset starts functioning.
Setting/ Procedure	• The default setting is 1 min. “1 min.” (1 to 9, OFF)

(3) Job Reset

<When Account is changed>

Functions	• To select whether to reset the copying mode functions to the default ones when the Key Counter is unplugged, a magnetic card is pulled out, User Authentication/Volume Track is set.
Use	• To select not to reset to the default settings even when the accounts are changed through the use of a data management device.
Setting/ Procedure	• The default setting is Reset. “Reset” Do Not Reset

<When Original is set on ADF>

Functions	• To set whether to set the copy mode to the default setting when the original is set to ADF.
Use	• To reset the copy mode to the default setting when the original is set to ADF.
Setting/ Procedure	• The default setting is Do Not Reset. Reset “Do Not Reset”

<When NEXT JOB is selected: Staple Setting>

Functions Use	• To set whether to cancel the staple setting when the Staple setting job started and the next job setting has become available.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<When NEXT JOB is selected: Original Set / Bind Direction>

Functions Use	• To set whether to cancel the Original Set/Bind direction when the job (which original set/bind direction is set) started and the next job setting has become available.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<When NEXT JOB is selected: Reset Data After Job>

Functions Use	• To set whether to cancel the setting for scanning or transmitting Fax when the scanning is finished or Fax is transmitted, making the next job setting available. (The address will be cleared even when [OFF] is selected.)
Setting/ Procedure	• The default setting is ON. "ON" OFF

E. Auto Color Level Adjustment

Functions	• To set the criterion level to discriminate between a colored original and a black-and-white original in the Auto Color mode
Use	• To change the criterion level for the partly colored image to be taken as a black-and-white original
Setting/ Procedure	• Five levels are available to choose from and the default setting is 3. Black Standard Full Color 1 2 "3" 4 5

8.5.2 Display Setting

A. Sub Screen Display ON/OFF

Functions	• To set the Sub Screen Display on the control panel.
Use	• To change the Sub Screen Display. Setting Value : An illustration of the selected key will be displayed Job List : The list of job which are being executed will be displayed
Setting/ Procedure	• The default setting is Setting Value. "Setting Value" Job List

B. Scan Basic Screen Default Seeing

(1) Default Tab

Functions	• To set the Basic Screen display in Scanner mode.
Use	• To change the Basic Screen display in Scanner mode.
Setting/ Procedure	• The default setting is Program. "Program" Group Address Book Direct Input

(2) Program Default

Functions	• To set the default display for the program screen during Scanner mode.
Use	• To keep the default display on the program screen which frequently changes during scanner mode
Setting/ Procedure	• The default setting is PAGE 1. Temporary One-Touch/ "PAGE1" to PAGE27

(3) Address Book Default Index

Functions	• To set the default display for the Address Book screen during Scanner mode.
Use	• To keep the default display instead of search string on the Address Book which frequently changes during Scanner mode.
Setting/ Procedure	• The default setting is Main. "Main" /ABC to WXYZ / etc

(4) Address Type Symbol Display

Functions	• To set whether to display the Address Type Symbol on each address key when selecting the address to transmit scanned data.
Use	• To cancel displaying the Address Type Symbol on the address key.
Setting/ Procedure	• The default setting is ON. "ON" OFF

C. Fax Basic Screen Default Setting

(1) Default Tab

Functions	• To set the basic screen display during Fax mode.
Use	• To change the basic screen display during Fax mode.
Setting/ Procedure	• The default setting is Program. "Program" Group Address Book Direct Input

(2) Default Program

Functions	• To set the default display for the program screen during Fax mode.
Use	• To keep the default display on the program screen which frequently changes during Fax mode.
Setting/ Procedure	• The default setting is PAGE 1. Temporary One-Touch / "PAGE1" to PAGE27

(3) Address Book Default Index

Functions	• To set the default display for abbreviation/address screen during Fax mode.
Use	• To keep the default display instead of abbreviations/address search string which frequently changes during Fax mode.
Setting/ Procedure	• The default setting is Main. "Main" / ABC to WXYZ / etc

(4) Address Type Symbol Display

Functions	• To set whether to display the Address Type symbol on each address key when selecting the address to transmit Fax.
Use	• To cancel displaying the Address Type symbol on each address key.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(5) No. of Characters for Dest. Display

Functions	• To set the number of characters for the address displayed on the address key when selecting the address to transmit Fax.
Use	• To display the whole address which consists of over fifteen characters.
Setting/ Procedure	• The default setting is 14 char. "14 char." 24 char.

D. Copy Screen

(1) Copy Operating Screen

Functions	• To set the display on the control panel screen during printing.
Use	• To display the screen to indicate printing when printing is being carried out. ON : The screen shows that the printing is being carried out. The job can be reserved with [Program Next Job]. OFF: The screen does not indicate the printing being carried out. The normal Copy setting screen will be displayed. The copy reservation is available.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

E. Fax Active Screen

(1) TX Display

Functions	• To set the screen display for the control panel when transmitting Fax.
Use	• To display [Sending] on the screen when transmitting Fax.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(2) RX Display

Functions	• To set the screen display on the control panel when receiving Fax.
Use	• To display [Receiving] on the screen when receiving the Fax.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

8.5.3 Initial Setting

Functions	• To register the default setting for the Copy mode function, the Scanner mode function, and the Fax mode function. * The machine is initialized at the following timings: • The Main Power Switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Reset • The password entry screen for account Track is changed.
Use	• To change the Initial mode setting to meet the user's need.
Setting/ Procedure	<Current Setting> • To register the Copy mode, scanner mode, or Fax mode set on the panel. • Carry out this setting after the necessary setting for each mode. <Factory Default> • Mode set prior to the shipping. • The corresponding setting will be the one which has been set prior to the shipping by carrying out this setting from each mode screen.

8.5.4 Copier Setting

A. Auto Paper Select for Small Original

Functions	• To make the copy setting when the paper is undetectably small, or no original is being set.
Use	• To copy the original such as business cards with which the Original detection is not effective. Copy on Small Size : Copies on A5 paper. Copy on A4/Letter : Copies on A4 or Letter size paper. Prohibit Copy : Does not copy since the original size cannot be detected. Paper Feed Tray needs to be selected prior to pressing the Start key.
Setting/ Procedure	• The default setting is Prohibit Copy. Copy on Small Size Copy on A4/Letter "Prohibit Copy"

B. Auto Booklet ON when Fold & Staple

Functions	• To set whether to set the Auto Booklet when Fold & Staple is selected.
Use	• To cancel setting the Auto Booklet when Fold & Staple is selected.
Setting/ Procedure	• The default setting is Auto Select Booklet. "Auto Select Booklet" OFF

C. Auto Zoom for Combine/Booklet

Functions	• To set whether to select the appropriate magnification when Combine or Booklet is selected during Auto Paper Select.
Use	• To cancel selecting the appropriate magnification when Combine or Booklet is selected during Auto Paper Select.
Setting/ Procedure	• The default setting is Auto Display Zoom Ratio. "Auto Display Zoom Ratio" OFF

D. Sort/Group Auto Change

Functions	• To set whether to automatically switch Sort/Group according to the number of originals and the copies.
Use	• To cancel the function to automatically sort two originals or more when they are set to ADF.
Setting/ Procedure	• The default setting is ON. "ON" OFF

E. Auto Magnification Selection (Platen)

Functions	• To set whether to function the Auto Magnification when the Feed Tray is selected with document set on the Original Glass (excepting at Automatic Paper Selection mode.)
Use	• To function the Auto Magnification when the Tray is selected.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

F. Auto Magnification Selection (ADF)

Functions	• To set whether to function the Auto Magnification when the Feed Tray is selected with document set on the ADF (excepting at Automatic Paper Selection mode.)
Use	• To function the Auto Magnification when the Feed Tray is selected.
Setting/ Procedure	• The default setting is ON. "ON" OFF

G. Specify Default Tray when APS Off

Functions	• To set the Tray to be used when APS is cancelled.
Use	• To set the Tray for the initial setting when APS is cancelled.
Setting/ Procedure	• The default setting is Tray (Tray 1) Before APS OFF. "Tray Before APS ON" Default Tray

H. Select Tray for Insert Sheet

Functions	• To select the default setting of the Tray for Cover sheet paper.
Use	
Setting/ Procedure	• The default setting is Tray 2.

I. Print Jobs During Copy Operation

Functions	• To set whether to accept the printing job for Print data or Fax data during copy operation.
Use	• To refuse Print data or Fax data during copy operation. Accept : Receives the Print data or Fax data to print. Receive Only : Print data or Fax data will be printed when the copy operation is finished.
Setting/ Procedure	• The default setting is Accept. "Accept" Receive Only

8.5.5 Scanner Setting

A. JPEG Compression Level

Functions	• To set the JPEG Compression method when scanning with JPEG while in Scanner mode.
Use	• To change the compression rate when JPEG scanning. High Quality : Lowers the compression rate and puts priority in quality while scanning. Standard : Compression rate and quality are normally balanced while scanning. High Compression: Makes the compression rate higher and puts priority in lowering the data volume while scanning.
Setting/ Procedure	• The default setting is Standard. High Quality "Standard" High Compression

B. Black Compression Level

Functions	• To set the monochrome compression method for scanning in the monochrome mode while in Scanner mode.
Use	• To be used when changing the monochrome mode while in Scanner mode.
Setting/ Procedure	• The default setting is MMR. MH "MMR"

C. TWAIN Lock Time

Functions	• To set the period of time for unlocking the operation panel while in TWAIN scanning.
Use	
Setting/ Procedure	• The default setting is 120 sec. 120 sec. (30 to 300 sec.)

8.5.6 Printer Setting

A. Basic Setting

(1) PDL Setting

Functions	• To set the PDL (Page Description Language) for PC printing.
Use	• To fix the PDL as necessary. It usually switches automatically.
Setting/ Procedure	• The default setting is Auto. "Auto" PCL PS

(2) Number of Sets

Functions	• To set the number to be copied when not specified by the printer driver during PC printing.
Use	• To use when the number cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is 1. "1" (1 to 999)

(3) Original Direction

Functions	• To set the default setting for the direction of the original during PC printing.
Use	
Setting/ Procedure	• The default setting is Portrait. "Portrait" Landscape

(4) Spool Print Jobs in HDD before RIP

Functions	• To set whether to store the print data to HDD when receiving the next job during Rip process of the current job.
Use	
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(5) A4/A3 ↔ LTR/LGR Auto Switch

Functions	• To set whether to switch between A4 and Letter size paper, and A3 and Ledger size paper in reading.
Use	• To output Letter size document to A4 size, and Ledger size document to A3 size. • To output A4 size document to Letter size, and A3 size document to Ledger size. **NOTE** **• When switching the size, the image will be printed in the same magnification.** **• The image will not be reduced when there is image deficiency.**
Setting/ Procedure	• The default setting is OFF. ON "OFF"

B. Paper Setting

(1) Paper Tray

Functions	• To set the Paper Feed Tray when not specified by the printer driver during PC printing.
Use	• To use when Paper Feed Tray cannot be specified by the printer driver when printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Auto.

(2) Default Paper Size

Functions	• To set the paper size when not specified by the printer diver during printing.
Use	• To use when the paper size cannot be specified by the printer driver during printing from Windows DOS, etc.

(3) 2-Sided Print

Functions	• To set whether to carry out duplex print during PC printing when not specified by the printer driver.
Use	• To use when 2-sided printing cannot be specified by the printer driver while printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(4) Bind Direction

Functions	• To set the binding direction during duplex printing when not specified by the printer driver during PC printing.
Use	• To use when binding direction cannot be specified by the printer driver during printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is Left Bind. Top Bind “Left Bind” Right Bind

(5) Staple

Functions	• To set whether to staple or not when not specified by the printer driver during PC printing.
Use	• To use hen staple is not specified by the printer driver during printing by the Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. 1 Position 2 Positions “OFF”

(6) Hole-Punch

Functions	• To select whether to make punch-holes or not when not specified by the printer driver during PC printing.
Use	• To use when the printer driver cannot specify punching during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

C. PCL Setting

(1) Typeface

Functions	• To set the font when not specified by the printer driver during PC printing.
Use	• To use when the printer driver cannot specify the font during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Courier.

(2) Symbol Set

Functions	• To set the Font Symbol Set when not specified by the printer driver during PC printing.
Use	• To use when the Font Symbol Set cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Roman-8 or PC8, Code Page 437.

(3) Font Size

Functions	• To set the font size when not specified by the printer driver during PC printing.
Use	• To set the font size when it cannot be specified by the printer driver during printing from Windows DOS, etc. • To set Scalable Font (: Point) and Bitmap Font (: Pitch) respectively.
Setting/ Procedure	• The default setting is Scalable Font : 12.00 points Bitmap Font : 10.00 pitch

(4) Line/Page

Functions	• To set the number of lines per page for printing the text data.
Use	• To change the number of lines per page for printing the text data.
Setting/ Procedure	• The default setting is 60 or 64 lines. “60 or 64 lines” (5 to 128)

(5) CR/LF Mapping

Functions	• To set the mode for replacing data when printing the text data.
Use	• To change the mode for replacing data when printing the text data. Mode 1 : Replacing CR with CR-LF Mode 2 : Replacing LF with CR-LF Mode 3 : Replacing with CR-LF OFF : Does not replace
Setting/ Procedure	• The default setting is OFF. Mode 1 Mode 2 Mode 3 "OFF"

D. PS Setting

(1) PS Error Print

Functions	• To set whether to print or not the error information when an error occurred during PS rasterizing.
Use	• To print the information concerning the PostScript error.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

E. Print Reports

Functions	• To output the report or Demo Page concerning the print setting.
Use	• To check the setting concerning the printer. The types of report available for output are as follows. Configuration Page : The list of printer setting will be output. Demo Page : The test page will be output. PCL Font List : PCL Font List will be output. PS Font List : PS Font List will be output.
Setting/ Procedure	*1.* Touch [User Setting] → [Printer Setting] → [Print Reports]. *2.* Select the report to be output. *3.* Select the Paper Feed Tray and press the Start key.

8.6 Administrator Setting

- The Administrator setting will be available by entering the administrator password (8 digits) set by the administrator setting or Service Mode.
  (The administrator password is initially set to "12345678.")

8.6.1 System Setting

A. Power Save

(1) Low Power Mode Setting

Functions	• To set the time until Low Power starts operating after the last key operation has been completed. • Low Power: To turn LED and LCD OFF, and lower the power consumption.
Use	• To change the time until Low Power starts.
Setting/ Procedure	• Use the 10-Key Pad for setting. • The default setting is 15 min. "15 min." (10 to 240)

(2) Sleep Mode Setting

Functions	• To set the time until Sleep Mode starts operating after the last key operation has been completed. • Turn all lines OFF except 5 V line for Control. • "OFF" will only be displayed when "No Sleep" in Service Mode is set.
Use	• To change the time until the Sleep Mode starts. **NOTE** • **The sleep mode will begin in 48 hours even if it sets it to "OFF."**
Setting/ Procedure	• Use the 10-Key Pad for setting. • The default setting is 30 min. "30 min." (15 to 240) / OFF

(3) Power Save Key

Functions	• To set the type of the Power Save Mode which starts by pressing the Power Save Key.
Use	• To change the Power Save function which starts by pressing the Power Save key.
Setting/ Procedure	• The default setting is Low Power. "Low Power" Sleep

(4) Entering Power Save Mode (Fax)

Functions	• To set whether to immediately switch to the Power Save Mode after printing in case of receiving the Fax during Power Save Mode.
Use	• To immediately switch to the Power Save Mode after printing in case of receiving the Fax during Power Save Mode. Normal : Switches to the Power Save Mode according to the normal Power Save Mode after the printing. Immediately : Switches to the Power Save Mode immediately after the printing.
Setting/ Procedure	• The default setting is Normal. "Normal" Immediately

B. Output Setting

(1) Print/Fax Output Settings

Functions	• To set the timing for printing for the PC print job or Fax received.
Use	Batch Print : Starts printing when all data are received Page Print : Starts printing every time data for each page are received
Setting/ Procedure	<Printer> • The default setting is Page Print. <Fax> • The default setting is Batch Print.

(2) Exit Tray Setting

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports). * This setting is available only when FS-501 is mounted.
Use	• To change the output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : 2 (Exit tray 2) Print : 2 (Exit tray 2) Fax : 3 (Exit tray 3) Reports : 3 (Exit tray 3)

C. Date/Time Setting

Functions	• To set the date/time and the time zone to start the clock.
Use	• To change settings concerning the date/time. • This setting should be carried out for set up.
Setting/ Procedure	• For time zone, set the time difference with the world standard time. • Setting range for the time zone: -12:00 to +12:00 (by 30 minutes)

D. Daylight Saving Time Setting

Functions	• To set whether to set the daylight saving time. • To set the time difference in setting the daylight saving time.
Use	• To set the daylight saving time.
Setting/ Procedure	• The default setting is OFF. ON “OFF” • When setting to ON, set the time difference to move up. “60 min.” (1 to 150)

E. Weekly Timer Setting

(1) Weekly Timer ON/OFF Setting

Functions	• To set whether to use or not to use the Weekly Timer.
Use	• To set the Weekly Timer.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Time Setting

Functions	• To set the time to turn ON/OFF the Weekly Timer for each day of the week.
Use	
Setting/ Procedure	*1.* Touch the key of the day to be set. *2.* Using the 10-Key Pad, input the ON time and the OFF time. *3.* For cancelling the setting, press [Clear].

(3) Date Setting

Functions	• To select the date or the day of the week for the Weekly Timer to function.
Use	
Setting/ Procedure	*1.* Select the Year/Month with [+] / [-] keys. *2.* For setting by the date, touch the appropriate key of the day. *3.* For setting by the day of the week, touch the appropriate key of the week by [Daily Setting]. *4.* Check to make sure that the set key of the day is highlighted, and touch [OK].

(4) Select Time for Power Save

Functions	• To set the time to turn power OFF/ON when the Weekly Timer is set and the power is ON.
Use	• To turn power OFF for a certain period of time when the Weekly Timer is set.
Setting/ Procedure	• The default setting is OFF. ON “OFF” <Set Time for Power Save> • Using the 10-Key Pad, input the time to turn OFF and to turn back ON again.

(5) Password for Non-Business Hours

Functions	• To set whether to input the password before using when the Weekly Timer is set.
Use	• To set the password for turning the power ON temporarily when the Weekly Timer is set.
Setting/ Procedure	• The default setting is OFF. ON “OFF” • When setting to ON, enter the password (eight digits).

F. Restrict User Access

(1) Restrict Access to Saved Program Jobs

Functions	• To set the prohibition for modifying the registered Copy program.
Use	• To be used when prohibiting the user from changing the Copy program.
Setting/ Procedure	*1.* Touch the key for the appropriate Copy program. *2.* Touch [OK].

(2) Delete Saved Program Jobs

Functions	• To delete the registered Program Job.
Use	• To delete the registered Program Job.
Setting/ Procedure	*1.* Touch the appropriate Program Job. *2.* Touch [Delete]. *3.* Touch [Yes] on the Check screen to delete the Program Job.

(3) Restrict Access to Job Settings

<Changing Job Priority>

Functions	• To set whether to allow or restrict the change on the print priority for the Job.
Use	• To Restrict the change on the print priority for the Job.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

<Deleting Other User's Jobs>

Functions	• To set whether to allow or restrict Job delete by other users when the user is authenticated.
Use	• To allow other users to delete the Job when the user is authenticated.
Setting/ Procedure	• The default setting is Restrict. Allow "Restrict"

<Registering and Changing Addresses>

Functions	• To set whether to allow or restrict the change of the registered address.
Use	• To prohibit the change on the registered address.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

<Changing Zoom Ratio>

Functions	• To set whether to allow or restrict the change on the registered magnification.
Use	• To prohibit the change on registered magnification.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

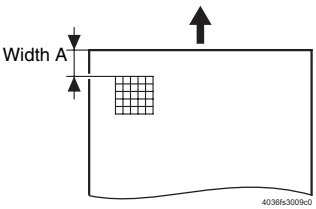
G. Expert Adjustment

(1) AE Level Adjustment

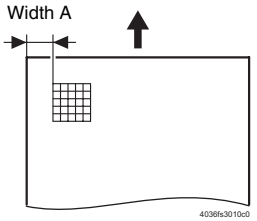
Functions	• To set the default setting for AE (Auto Exposure) The larger the value becomes the more emphasized the background will be.
Use	To make the background level foggier: Increase the setting value To make the background level less foggy: Decrease the setting value
Setting/ Procedure	• The default setting is 2. "2" (0 to 4)

(2) Printer Adjustment

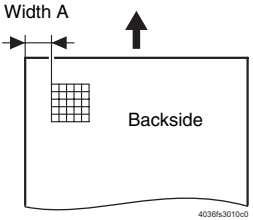
<Leading Edge Adjustment>

Functions	• To vary the print start position in the sub scan direction for each of different paper types in Tray 1.
Use	• The PH Unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the sub scan direction. • A faint image occurs on the leading edge of the image.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 4.2 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Printer Adjustment] → [Leading Edge Adjustment]. *3.* Select the [Normal]. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for Thick 1 to 3, OHP, and envelope.

<Centering>

Functions	• To vary the print start position in the main scan direction for each paper source.
Use	• The PH Unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the main scan direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Printer Adjustment] → [Centering]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Bypass.)

<Centering (Duplex 2nd Side)>

Functions	• To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
Use	• To use when the optional Automatic Duplex Unit AD-503 is set up. • The image on the backside of the 2-sided copy deviates in the main scan direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Printer Adjustment] → [Centering (Duplex 2nd Side)]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern on the backside of the copy. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Manual Bypass Tray.)

<Media Adjustment>

Functions	• Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type. • This function is provided to open [Transfer Output Fine Adjustment] → [2nd Transfer Adjust] of Service Mode up to Administrator and the fine-adjusted value is reflected in the Service Mode setting.
Use	• To use when the transfer failure at the trailing edge occurs.
Adjustment Specification	"0" (-5 to +5)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image): increase the setting value in + direction. To decrease the ATVC value (in the direction of a less foggy image): increase the setting value in - direction.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch these keys in this order: [Expert Adjustment] → [Printer Adjustment] → [Media Adjustment]. *3.* Select the side of the image (Front side or Back side), on which the transfer failure at the trailing edge occurs. *4.* Select the paper type with the transfer failure at the trailing edge. *5.* Enter the new setting from the [+/-]. *6.* Touch [OK] to validate the adjustment value. *7.* Check the copy image for any image problem.

<Erase Leading Edge>

Functions	• To set the leading edge erase amount of the paper.
Use	• To change the width of the area not printed along the leading edge of the paper.
Setting/ Procedure	• The default setting is "4 mm". "4 mm" 5 mm 7 mm

(3) Finisher Adjustment

☞ For details of adjustment method, see FS-603 Service Manual.

<Center Staple Position>

Functions	• To adjust the positions of center staple for the Finisher.
Use	• Use when the center staple positions deviate from the correct ones in the copies made using the Staple function.
Adjustment Specification	• Center staple position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).

<Half-Fold Position>

Functions	• To adjust the positions of folding for the Finisher.
Use	• Use when the center folding positions deviate from the correct ones in the copies made using the Fold function.
Adjustment Specification	• Fold position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).

(4) Density Adjustment

<Thick Paper Image Density-Yellow, Magenta, Cyan, Black>

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies.
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	Lighter (5 steps), “Std”, Darker (5 steps)
Adjustment Instructions	Light color: Touch the Darker key. Dark color: Touch the Lighter key.
Adjustment Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Density Adjustment] → [Thick Paper Image Density-Yellow/Magenta/Cyan/Black]. *3.* Touch the Lighter or Darker key for the desired color to correct the image density.

<Black Image Density>

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	Lighter (2 steps), “Std”, Darker (2 steps)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Density Adjustment] → [Black Image Density]. *3.* Touch the Lighter or Darker key as necessary to correct the image density.

(5) Image Stabilization

<Image Stabilization Only>

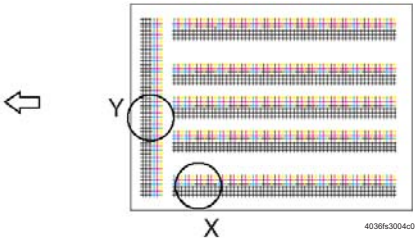
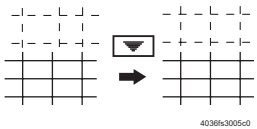
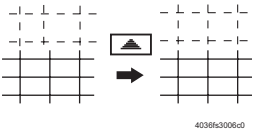
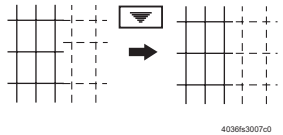
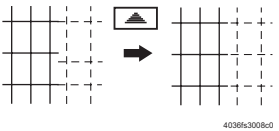
Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • When D Max Density and Background Voltage Margin of Service mode are changed.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Image Stabilization] → [Image Stabilization Only]. *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

<Initialize+Image Stabilization>

Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after Image Stabilization has been executed.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Image Stabilization] → [Initialize+Image Stabilization]. *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

(6) Color Registration Adjust

<Color Registration Adjust (Yellow, Magenta, Cyan)>

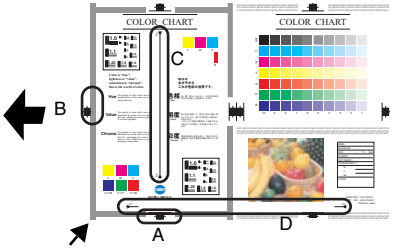
Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper.
Use	• To correct any color shift
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Color Registration Adjust]. *3.* Load Tray 1 with A3/11x17 or A4/8 1/2x11 Normal paper. *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the color to be adjusted. *7.* Using the [+] / [-] key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  Adjustment for X direction: Check point X If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C Direction of D   Adjustment for Y direction: Check point Y If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C Direction of D  

(7) Gradation Adjustment

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the Scanner
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The Image Transfer Belt Unit has been replaced. ✻ The Adj. Values of Max. and Highlight shown on the Gradation Adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density. ✻ The closer the Conv. Value to 0, the more ideal the image. • Printer (Gradation) : It gives the highest priority to gradation performance of the image as it adjusts. • Printer (Resolution) : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • Copy : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Specification	Max: 0 ± 100 Highlight: 0 ± 60
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Gradation Adjustment]. *3.* Select the appropriate mode for the Gradation Adjustment. *4.* Press the Start key to let the machine produce a test pattern. *5.* Place the test pattern produced on the Original Glass. *6.* Place ten blank sheets of A3 paper on the test pattern and lower the Original Cover. *7.* Press the Start key. (The machine will then start scanning the test pattern.) *8.* Touch [OK] and repeat steps from 2 through 6 twice (a total of three times). *9.* Touch [Gradation Adjust] to display the Adj. Values and Conv. Values of each color (C, M, Y and K) for Max and Highlight. *10.*Use the following procedures to check the Conv. Value. **Max: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.** **If neither Max nor Highlight falls outside the ranges specified above: Perform steps from 2 to 6.** • If a fault is detected, “0” is displayed for all values. In this case, turn OFF and ON the Main Power Switch and perform Gradation Adjust once again. • If either Max or Highlight still remains outside the specified ranges perform D Max Density. • If a total of four sequences of Gradation Adjust do not bring the values into the specified range, check the image. • If the image is faulty, perform the troubleshooting procedures for image problems.

(8) Scanner Adjustment

- Use the following Color Chart for the adjustment of the Scanner Section.
- If the Color Chart is not available, a scale may be used instead.

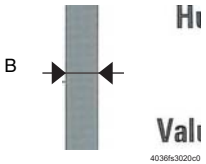


Original Reference

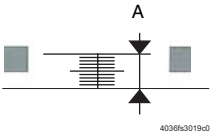
4038F3C517DA

- A: Centering
- B: Leading Edge Adjustment
- C: Horizontal Adjustment
- D: Vertical Adjustment

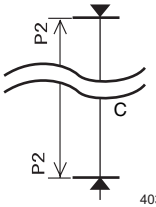
<Leading Edge Adjustment>

Functions	• To adjust variations in mounting accuracy and sensitivity of the Scanner Home Sensor and in mounting accuracy of the Original Width Scale by varying the scan start position in the main scan direction.
Use	When the Original Glass is replaced. When the Original Width Scale is replaced.
Adjustment Specification	 4036fs3020c0 •B width on the color chart and one on the copy sample are measured and adjusted so that the difference of B width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Leading Edge Adjustment] of the Printer Adjustment. Specifications B: ± 0.5 mm Setting Range -5.0 to +5.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Scanner Adjustment] → [Leading Edge Adjustment]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

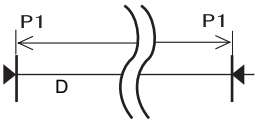
<Centering>

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the main scan direction.
Use	• When the CCD Unit is replaced. • When the Original Glass is replaced. • The Scanner Home Sensor has been replaced.
Adjustment Specification	 •A width on the color chart and one on the copy sample are measured and adjusted so that the difference of A width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Leading Edge Adjustment] of the Printer Adjustment. Specifications A: ± 1.0 mm Setting Range -10.0 to +10.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Scanner Adjustment] → [Centering]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make a copy. *8.* Check point A of the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

<Horizontal Adjustment>

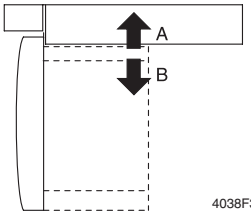
Functions	• To adjust the zoom ratio in the main scan direction for the Scanner Section
Use	• The CCD Unit has been replaced.
Adjustment Specification	 4038F3C516DA •Measure C width on the color chart and on the sample copy, and adjust the gap to be within the following specification. Specifications C: ± 1.0 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the C width on the copy sample is less than one on color chart, increase the setting. If the C width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Scanner Adjustment] → [Horizontal Adjustment]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the C width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

<Vertical Adjustment>

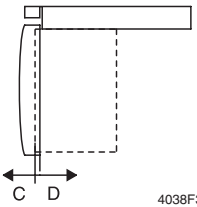
Functions	• To adjust the zoom ratio in the sub scan direction for the Scanner Section
Use	• The Scanner Assy has been replaced. • The Scanner Motor has been replaced. • The Scanner Drive Cables have been replaced.
Adjustment Specification	 4038F3C518DA •Measure D width on the color chart and on the sample copy, and adjust the gap to be within the following specification. Specifications D: ± 1.5 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the D width on the copy sample is less than one on color chart, increase the setting. If the D width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [Scanner Adjustment] → [Vertical Adjustment]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the D width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

(9) ADF Adjustment

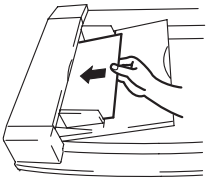
<Centering>

Functions	• To make a manual adjustment of the document centering position in each of the ADF modes.
Use	• To use when the “Centering Auto Adjustment” cannot make adjustment completely.
Setting/ Procedure	 4038F3C502DA *1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [ADF Adjustment] → [Centering]. *3.* Enter the numeric value using the [+] / [-] key. Adjustment range: -3 mm to +3 mm • To read the image in direction A, use [-] key. • To read the image in direction B, use [+] key. *4.* Press [OK].

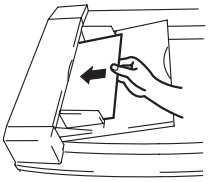
<Original Stop Position>

Functions	• To make a manual adjustment of the document stop position and scanning position in each of the ADF modes.
Use	• To use when the "Auto Adj. of Stop Position" cannot make adjustment completely.
Setting/ Procedure	 4038F3C503DA *1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [ADF Adjustment] → [Original Stop Position]. *3.* Select either Front side or Back side. *4.* Enter the numeric value using the [+] / [-] key. Adjustment range: -7 mm to +7 mm • To read the image in direction C, use [-] key. • To read the image in direction D, use [+] key. *5.* Press [OK].

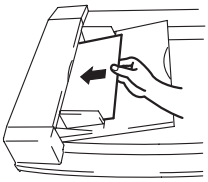
<Centering Auto Adjustment>

Functions	• Adjust the start position for image scanning
Use	• Upon setup of the ADF
Setting/ Procedure	 4038F3C504DA *1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [ADF Adjustment] → [Centering Auto Adjustment]. *3.* Set the furnished Chart on the Original Feed Tray (the side with arrow faces up) and press the Start key. *4.* Make sure that adjustment result is [OK] and press [SET]. *If adjustment result is [NG], • Check the document position and correct it. • Make a manual adjustment on [Centering].

<Auto Adj. of Stop Position: Front>

Functions	• Adjust the document stop position for the first side. • Check for skew.
Use	• Upon setup of the ADF
Setting/ Procedure	 4038F3C504DA *1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [ADF Adjustment] → [Auto Adj. of Stop Position: Front]. *3.* Set the furnished Chart on the Original Feed Tray (the side with arrow faces up) and press the Start key. *4.* Make sure that adjustment result is [OK] and press [SET]. *If adjustment result is [NG], • Check the document position and correct it. • Make a manual adjustment on [Original Stop Position].

<Auto Adj. of Stop Position: Back>

Functions	• Adjust the document stop position for the second side.
Use	• Upon setup of the ADF
Setting/ Procedure	 4038F3C504DA *1.* Call the Administrator Setting to the screen. *2.* Touch [System Setting] → [Expert Adjustment] → [ADF Adjustment] → [Auto Adj. of Stop Position: Back]. *3.* Set the furnished Chart on the Original Feed Tray (blank side faces up) and press the Start key. *4.* Make sure that adjustment result is [OK] and press [SET]. *If adjustment result is [NG], • Check the document position and correct it. • Make a manual adjustment on [Original Stop Position].

H. List/Counter

(1) Management List

Functions	• To output the value set by the setting menu.
Use	
Setting/ Procedure	*1.* Touch [Job Settings List]. *2.* Select the Paper Feed tray and press the Start key.

(2) Paper Size/Type Counter

Functions	• To register the combination of the specific paper size and the paper type, and to set the count.
Use	
Setting/ Procedure	*1.* Press a key out of 1 to 10 registration keys. *2.* Select the paper type. *3.* Touch the paper size key to select the paper size.

I. Standard Size Setting

(1) Original Glass Original Size Detect

Functions	• To change the document size detection table.
Use	• Use to change the setting for the document size detection table.
Setting/ Procedure	• The default setting is Table1. "Table1" Table2

(2) Foolscap Size Setting

Functions	• To set the size for Foolscap paper.
Use	• Upon setup. • To change the size for Foolscap paper.
Setting/ Procedure	• Select the size from among the following five. 220 x 330 mm 81/2 x 13 81/4 x 13 81/8 x 131/4 "8 x 13"

8.6.2 Administrator/Machine Setting

A. Administrator Registration

Functions	• To register the information on Administrator and the From address for e-mail transmission.
Use	
Setting/ Procedure	*1.* Touch [Name], [E-Mail Address] to input them. *2.* Using the 10-Key Pad, enter the Extension No.

B. Input Machine Address

Functions	• To register the name of the Machine and E-mail address.
Use	Machine Name : When the file name of the transmitted file or the document name of document registered in Box is generated automatically, it is added. E-Mail : Not Used.
Setting/ Procedure	*1.* Touch [Machine Name] and input the name.

8.6.3 One-Touch Registration

A. Scan

(1) Address Book

<E-Mail>

Functions	• To register/change the e-mail address for transmitting the scanned data by e-mail.
Use	
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<FTP>

Functions Use	• To register and change the FTP address for transmitting the scanned data by FTP.
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<SMB>

Functions Use	• To register or change the SMB address for transmitting the scanned data by SMB.
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<User Box>

Functions Use	• To register or change the Box address for storing the scanned data to the Box in the hard disk of the Machine.
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting. • At least one user box must be registered in order to register the Box address.

(2) Group

Functions Use	• To register or change the group with a number of addresses to transmit data simultaneously.
Setting/ Procedure	• Touch [New] to register the new group. • elect any displayed group to check, edit, or delete the setting. • At least one address must be registered in order to register the group.

(3) Program

Functions Use	• To register or change the Scan Program.
Setting/ Procedure	• Select any program No. to check, edit or delete the setting.

(4) Subject/Text (for E-mail)

<Subject>

Functions Use	• To register the e-mail subject for transmitting the scanned data by e-mail.
Setting/ Procedure	• Touch [New] to register the new subject. • Select any displayed subject to detail check, edit, or delete the setting. • The subject can be set as default by selecting the subject displayed on the screen and pressing [Set as Default].

<Text>

Functions Use	• To register the e-mail message for transmitting the scanned data by e-mail.
Setting/ Procedure	• Touch [New] to register the new message. • Select any displayed message to detail check or delete the setting. • The text can be set as default by selecting the text displayed on the screen and pressing [Set as Default].

B. Fax

• Settings are available only when the Optional FAX kit (FK-502) is mounted.

(1) Address Book

<Addr. Dial>

Functions Use	• To register or change the Fax number for transmitting the Fax.
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<E-Mail>

Functions Use	• To register or change the e-mail address for transmitting the Fax original by e-mail.
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<User Box>

Functions Use	• To register or change the Box address in the hard disk of the machine when storing the Fax data in the Box.
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting. • At least one user box must be registered in order to register the Box address.

(2) Group

Functions Use	• To register or change the group with a number of addresses to transmit the Fax data simultaneously.
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed group to check, edit, or delete the setting. • At least one address of the group must be registered in order to register the group.

(3) Program

Functions Use	• To register or change the Fax Program.
Setting/ Procedure	• Select any Program No, to check, edit, or delete the setting.

(4) Subject/Text (for E-mail)

<Subject>

Functions Use	• To register the e-mail Subject for transmitting the Fax original by e-mail.
Setting/ Procedure	• Touch [New] to register the new subject. • Select any displayed subject to detail check, edit, or delete the setting. • The subject can be set as default by selecting the subject displayed on the screen and pressing [Set as Default].

<Text>

Functions Use	• To register the e-mail message for transmitting the Fax original by e-mail.
Setting/ Procedure	• Touch [New] to register the new message. • Select any displayed message to detail check or delete the setting. • The text can be set as default by selecting the text displayed on the screen and pressing [Set as Default].

C. User Box

(1) Public/Personal User Box

Functions	• To register or change the Box for storing the text data in the hard disk of the machine.
Use	• To register the shared or personal box for any purpose.
Setting/ Procedure	• Touch [New] to register the new box. • Select any displayed box to edit or delete it.

(2) Bulletin Board User Box

Functions Use	• To register or change the Bulletin Board User Box.
Setting/ Procedure	• Touch [New] to register the new box. • Select any displayed box to edit or delete it.

D. One-Touch Registration List

(1) Address Book List

Functions	• To output the Address Book List.
Use	• To print the list of abbreviated addresses which are registered.
Setting/ Procedure	*1.* Select the Destination Type to be output. *2.* Specify the Registration No. range to be output. *3.* Touch [Print], and select the Paper Feed Tray. *4.* Press the Start key to output the list of abbreviated addresses.

(2) Group List

Functions	• To output the Group List.
Use	• To print out the list of addresses of the group which are registered.
Setting/ Procedure	*1.* Specify the Registration No. range to be output. *2.* Touch [Print], and select the Paper Feed Tray. *3.* Press the Start key to output the list of the addresses of the group.

(3) Program List

Functions	• To output the Program List.
Use	• To print out the list of the Program addresses which are registered.
Setting/ Procedure	*1.* Select the Destination Type to be output. *2.* Specify the Registration No. range to be output. *3.* Touch [Print], and select the Paper Feed Tray. *4.* Press the Start key, and output the list of Program.

(4) E-Mail Subject/Text List

Functions	• To output the Subject or the Text list.
Use	• To print out the E-mail Subject/Text List which are registered.
Setting/ Procedure	*1.* Select the Paper Feed Tray. *2.* Press the Start key to output the Subject/Text List.

8.6.4 User Authentication/Account Track

A. General Settings

(1) User Authentication

Functions	• To set the User Authentication method.
Use	• To select whether to authenticate the user by the External Server or MFP.
Setting/ Procedure	• The default setting is OFF. "OFF" ON (External Server) ON (MFP)

(2) Public User Access

Functions Use	• To set whether to allow or prohibit the nonregistered user to use the system when User authentication has been set.
Setting/ Procedure	• The default setting is Restrict. "Restrict" Allow **NOTE** • **This setting is not available without User Authentication.**

(3) Account Track

Functions	• To set whether to enable the Account Track function or not.
Use	• To enable the Account Track function.
Setting/ Procedure	• The default setting is OFF. "OFF" ON

(4) Account Track Input Method

Functions	• To set the Authentication method for the Account Track.
Use	• To select whether to authenticate by password or by account name & password.
Setting/ Procedure	• The default setting is Account Name & Password. "Account Name & Password" Password Only **NOTE** **• This setting is not available without the Account Track.** **• "Password Only" setting is not available with the User Authentication.**

(5) When # of Jobs Reach Maximum

Functions	• To set whether to stop the currently printing job and start the next job, or to stop the machine, when reaching to the upper limit for the number of printed pages set by the User Authentication and the Account Track.
Use	• To stop the machine when the number of printed pages reach the upper limit set by the User authentication and the Account Track.
Setting/ Procedure	• The default setting is Skip Job. "Skip Job" Stop Job

(6) Synchronize User Authentication & Account Track

Functions	• To set whether to synchronize the User Authentication and Account Track.
Use	• To be used when not to synchronize the User Authentication and Account Track.
Setting/ Procedure	• The default setting is Synchronize. "Synchronize" Do not synchronize **NOTE** **• The setting is available only when carrying out the User Authentication and Account Track.**

(7) # of Counters Assigned for Users

Functions	• To set the number available to be assigned for the User registration and Account registration.
Use	• To change the number available to be assigned for the User registration and Account registration.
Setting/ Procedure	• The default setting is 500. • The total number to be registered for the User Authentication and Account Track is 1000. The number for the User registration will be set. When setting the [# of Counters Assigned for Users] to 50, the number available for Account Track will be 950. **NOTE** **• The setting is available only when carrying out the User Authentication and Account Track.**

B. User Authentication Setting

• The settings are available only when carrying out the User Authentication.

(1) Administrative Setting

<User Name List>

Functions	• To set whether to display or not the list key for User names on User Authentication screen.
Use	• To display the list key for User names on User Authentication screen
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Default Function Permission>

Functions	• To set the default value for the Function Permission in User Authentication by the External Server.
Use	• To set the function which authenticated user can use when initially authenticating the user by the External Server. • Items available for setting: Copy operation, Scan operation, Fax operation, and printing, and User Box operation
Setting/ Procedure	• The default settings are Allow. "Allow" Restrict"

(2) User Registration

Functions	• To register or change the user.
Use	• To register, change or delete the user for authentication.
Setting/ Procedure	*1.* Select the user. *2.* Input the [User Name], [User Password], and [E-Mail address]. **NOTE** • **The setting is not available when carrying out the external server authentication.** *3.* Set the [Output Permission], [Max Allowance Set], and [Function Permission], and touch [OK].

(3) User Counter

Functions	• To display the status of use of the copier, printer, scanner, and Fax for each user.
Use	• To check the status of use of the copier, printer, scanner, and Fax for each user.
Setting/ Procedure	*1.* Select the user. *2.* Select the key to check to see the status of use. *3.* For clearing the counter, touch [Clear Counter]. *4.* For clearing the all counters, touch [Reset All Counters].

C. Account Track Setting

- The settings are available only when carrying out the Account Track.

(1) Account Track Registration

Functions	• To register and change the Account.
Use	• To register, change or delete the account for Account Track.
Setting/ Procedure	*1.* Select the proper Account. *2.* Input the [Account Name] and the [Password]. *3.* Set the [Output Permission], and [Max. Allowance Set], and touch [OK].

(2) Account Track Counter

Functions	• To display the status of use of the copier, printer, scanner, and Fax for each account.
Use	• To check the status of use of the copier, printer, scanner, and Fax for each account.
Setting/ Procedure	*1.* Select the account. *2.* Select the key for the item to be checked. *3.* For clearing the counter, touch [Clear Counter]. *4.* For clearing the all counters, touch [Reset All Counters].

D. Print without Authentication

Functions	• To set whether to allow or restrict the print which user and account are not specified.
Use	• To allow or restrict printing which user and account are not specified.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

E. Counter List

Functions	• To print out the User counter and the account counter.
Use	• To output the user counter and account counter to be checked.
Setting/ Procedure	*1.* Touch [Counter List]. *2.* Select the Paper Feed Tray. *3.* Press the Start key. **NOTE** • **The setting is available only when carrying out the User Authentication or Account Track.**

8.6.5 Network Setting

A. TCP/IP Setting

(1) TCP/IP Setting

Functions	• To set whether to enable or disable TCP/IP setting.
Use	• To disable TCP/IP setting.
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **When the setting is changed, turn off the Main Power Switch and turn it on again more than 10 seconds after.**

(2) IP Address

Functions	• To set the IP address of the device used in the network.
Use	• To enter the IP address of the machine.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(3) Subnet Mask

Functions	• To set the subnet mask of the device used in the network.
Use	• To enter the subnet mask of the machine.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(4) Default Gateway

Functions	• To set the gateway address of the device used in the network.
Use	• To enter the gateway address of the machine.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(5) DHCP Setting

Functions	• To set DHCP for the network.
Use	• To use DHCP.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(6) Priority DNS Server

Functions	• To set the Priority DNS Server.
Use	• To enter Priority DNS Server.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(7) Substitute 1/2 DNS Server

Functions	• To set the Substitute DNS Server.
Use	• To enter the Substitute DNS Server.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

(8) IP Filtering

Functions	• To set the IP Filtering.
Use	• To set whether to receive IP address within the specified range of the value.
Setting/ Procedure	<Permit Access> *1.* Select Enable or "Disable" on [Permit Access]. *2.* Select range Set 1 to Set 5, and input address using the 10-Key Pad. *3.* Touch [OK]. <Deny Access> *1.* Touch [Deny Access]. *2.* Select Enable or "Disable" on [Deny Access]. *3.* Select range Set 1 to Set 5, and enter address using the 10-Key Pad. *4.* Touch [OK].

(9) RAW Port No.

Functions	• To set the RAW port No.
Use	• To set the RAW port number for the printer.
Setting/ Procedure	*1.* Select the necessary port number. *2.* Select to use or not to use. *3.* When using the selected port, press the Clear key to clear the value, and enter the RAW port number using the 10-Key Pad. *4.* Touch [OK].

(10) DNS Host Name

Functions	• To set the DNS Host name.
Use	• To enter the DNS Host name.
Setting/ Procedure	*1.* Touch [DNS Host Name]. *2.* Enter the DNS Host name on the screen key board, and touch [OK].

(11) DNS Domain Name

Functions	• To set the DNS Domain name.
Use	• To enter the DNS Domain name.
Setting/ Procedure	*1.* Touch [DNS Domain Name]. *2.* Enter the DNS Domain name using the keyboard on the screen, and touch [OK].

B. NetWare Setting

(1) NetWare Setting

Functions	• To enable or disable the NetWare setting.
Use	• To use NetWare setting.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(2) Ethernet Frame Type

Functions	• To set the Ethernet Frame Type.
Use	• To specify the Frame type for transmission.
Setting/ Procedure	• The default setting is Auto Detect. "Auto Detect" 802.2 802.3 Ethernet II 802.2SNAP

(3) Operating Mode

Functions	• To set the Operation Mode.
Use	• To change the Operation Mode.
Setting/ Procedure	• The default setting is PServer. "PServer" Nprinter/Rprinter

(4) Status

Functions	• To display NetWare status.
Use	• To check NetWare status.
Setting/ Procedure	*1.* Touch [Status]. *2.* Touch UP/Down arrow keys to select the server to check. *3.* Check the NetWare status.

(5) Print Server Name/Print Server Password

Functions	• To set the Print server name and Print server password.
Use	• To enter the print server name or the print server password.
Setting/ Procedure	*1.* Touch [Print Server name] or [Print Server Password]. *2.* Enter the Print server name or the Print server password (up to 63 characters) using the on-screen keyboard, and touch [OK].

(6) Polling Interval

Functions	• To set the Polling interval.
Use	• To set the interval to search the print queue.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the Polling interval between 1 and 65535 using the 10-Key Pad.

(7) NDS/Bindery Setting

Functions	• To set whether to enable or disable the Bindery setting when using NetWare4.X model and after.
Use	• To enable the Bindery service.
Setting/ Procedure	• The default setting is NDS. "NDS" NDS&Bindery

(8) File Server Name

Functions	• To set the File server name.
Use	• To set the Full server name for the print server to logon.
Setting/ Procedure	*1.* Touch [File Server Name]. *2.* Enter the File server name (up to 47 characters) on the on-screen keyboard, and touch [OK].

(9) NDS Context Name

Functions	• To set the NDS Context name.
Use	• To set the NDS Context name.
Setting/ Procedure	*1.* Touch [NDS Context name]. *2.* Enter the NDS Context name (up to 191 characters) on the on-screen keyboard, and touch [OK].

(10) NDS Tree Name

Functions	• To set the NDS Tree name.
Use	• To set the NDS Tree name.
Setting/ Procedure	*1.* Touch [NDS Tree Name]. *2.* Enter the NDS Tree name (up to 63 characters) on the on-screen keyboard, and touch [OK].

(11) Printer Name

Functions	• To set the Printer Name.
Use	• To set the Printer Name.
Setting/ Procedure	*1.* Touch [Printer Name]. *2.* Enter the Printer Name (up to 63 characters) on the on-screen keyboard, and touch [OK].

(12) Printer Number

Functions	• To set the Printer number.
Use	• To set the Printer number.
Setting/ Procedure	*1.* Touch [Auto] and cancel the reverse display. *2.* Press the Clear key. *3.* Enter the number between 0 and 254 using the 10-Key Pad.

C. IPP Setting

(1) IPP Setting

Functions	• To set whether to enable or disable IPP setting.
Use	• To disable IPP setting.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(2) Accept IPP job

Functions	• To set whether to allow or restrict the IPP job.
Use	• To restrict the IPP job
Setting/ Procedure	• The default setting is ON. "ON" OFF

(3) Support Operation

Functions	• To set the Operation support information.
Use	• For the response setting to see if IPP transmission supports each function.
Setting/ Procedure	*1.* Touch [Support Operation]. *2.* Set "ON" or OFF for each item.

(4) Printer Information

Functions	• To set the Printer information.
Use	• To set the Printer information.
Setting/ Procedure	*1.* Touch [Printer Information]. *2.* Enter the Printer Name, Printer Location, and Printer Information on the on-screen keyboard. *3.* Touch [Print URI] to check the Printer URI information.

D. FTP Setting

(1) Proxy Server Address

Functions	• To set the Proxy server address.
Use	• To enter the Proxy server address.
Setting/ Procedure	• IP address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch [Host Address]. *2.* Select [IP Address Input] to enter the IP Address. *3.* Select [Host Name Input] to enter the Host name.

(2) Proxy Port Number

Functions	• To set the Proxy server port number.
Use	• To enter the Proxy server port number.
Setting/ Procedure	• Press the Clear key. • Enter the Proxy server port number between 1 and 65535 using the 10-Key Pad.

(3) Port No.

Functions	• To set the Port number to be used for transmission with FTP server.
Use	• To enter the Port number to be used for transmission with FTP server.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the Proxy Server Port number between 1 and 65535 using the 10-Kay Pad.

(4) Connection Timeout

Functions	• To set the timeout period for connecting to FTP server.
Use	• To change the timeout period for connecting.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the connecting timeout period between 5 and 300 using the 10-Key Pad.

(5) FTP Client

Functions	• To set whether to use “Scan to FTP (FTP transmission)” or not.
Use	• Not to use “Scan to FTP (FTP transmission).”
Setting/ Procedure	• The default setting is ON. “ON” OFF

(6) FTP Server

Functions	• To set whether to use FTP server or not.
Use	• Not to use FTP server.
Setting/ Procedure	• The default setting is ON. “ON” OFF

E. SMB Setting

(1) Scan Setting

Functions	• To set whether to use SMB or not in Scan mode (Scan to PC).
Use	• Not to use SMB in Scan mode (Scan to PC).
Setting/ Procedure	• The default setting is ON. “ON” OFF

(2) Print Setting

Functions	• To set whether to use SMB port or not in Printer mode.
Use	• Not to use SMB port in Printer mode.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(3) NetBIOS Name

Functions	• To set NetBIOS name.
Use	• To set NetBIOS name.
Setting/ Procedure	*1.* Touch [NetBIOS Name]. *2.* Enter the NetBIOS name (up to 15 characters) on the on-screen keyboard, and touch [OK].

(4) Print Service Name

Functions	• To set the Print service name.
Use	• To set the Print service name.
Setting/ Procedure	*1.* Touch [Print Service Name]. *2.* Enter the Print Service name (up to 13 characters) on the on-screen keyboard, and touch [OK].

(5) Workgroup

Functions	• To set the Workgroup.
Use	• To set the Workgroup.
Setting/ Procedure	*1.* Touch [Workgroup]. *2.* Enter the Workgroup (up to 15 characters) on the on-screen keyboard, and touch [OK].

F. AppleTalk Setting

(1) AppleTalk Setting

Functions	• To set whether to enable or disable the AppleTalk setting.
Use	• To use AppleTalk setting.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Printer Name

Functions	• To set the Printer name displayed on the AppleTalk network.
Use	• To set the Printer name displayed on the AppleTalk network.
Setting/ Procedure	*1.* Touch [Printer Name]. *2.* Enter the Printer name (up to 31 characters) on the on-screen keyboard, and touch [OK].

(3) Zone Name

Functions	• To set the Zone name connected with AppleTalk network.
Use	• To set the Zone name connected with AppleTalk network.
Setting/ Procedure	*1.* Touch [Zone Name]. *2.* Enter the Zone name (up to 31 characters) on the on-screen keyboard, and touch [OK].

(4) Current Zone

Functions	• To display the current zone on AppleTalk network.
Use	• To check the current zone on the AppleTalk network.

G. LDAP Setting

(1) Enabling LDAP

<LDAP Function>

Functions	• To set whether to enable or disable the LDAP function.
Use	• To use LDAP function.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Max. Search Results>

Functions	• To set the Max. results of address for LDAP search.
Use	• To change the Max. results of address for LDAP search.
Setting/ Procedure	*1.* Touch [Max. Search Results]. *2.* Press the Clear key. *3.* Enter the Max. Search result numbers between 5 and 1000 using the 10-Key Pad.

<Timeout>

Functions	• To set the Max. timeout period for LDAP search.
Use	• To change the Max. timeout period for LDAP search.
Setting/ Procedure	*1.* Touch [Timeout]. *2.* Press the Clear key. *3.* Enter the timeout period between 5 and 300 using the 10-Key Pad.

<Initial Setting for Search Details>

Functions	• To set the initial items for search conditions in LDAP detail search.
Use	• To set the initial items for search conditions in LDAP detail search.
Setting/ Procedure	*1.* Touch [Initial Setting for Search Details]. *2.* Touch the key about condition for each search item, and select the condition.

(2) Setting Up LDAP

<Server Address>

Functions	• To set the LDAP server address.
Use	• To enter LDAP server address.
Setting/ Procedure	• IP Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255]

<Search Base>

Functions	• To set the Directory Path for LDAP server.
Use	• To enter the Directory Path for LDAP server.
Setting/ Procedure	*1.* Touch [Search Base]. *2.* Enter the Search Base (up to 255 characters) on the on-screen keyboard, and touch [OK].

<Enable SSL>

Functions	• To set whether to use SSL (data encryption) for connecting to LDAP server.
Use	• To use SSL (data encryption) for connecting to LDAP server.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Port No.>

Functions	• To set the LDAP server port number.
Use	• To enter the LDAP server port number.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the port number between 1 and 65535 using the 10-Kay Pad.

<General Settings>

Functions	• To set the authentication method to logon to LDAP server.
Use	• To change the authentication method to logon to LDAP server. anonymous : User name and password are not necessary Simple : Simple method which needs the user name and the password Digest-MD5 : Method available with normal LDAP server. When failing to authenticate with Digest-MD5, it automatically switches to CRAM-MD5. GSS-SPNEGO : Method available with Window's Active Directory (Kerberos authentication).
Setting/ Procedure	• The default setting is anonymous. "anonymous" Simple Digest-MD5 GSS-SPNEGO

<Login Name>

Functions	• To set the Logon name to connect to LDAP server.
Use	• To set the logon name to connect to LDAP server.
Setting/ Procedure	*1.* Touch [Login Name]. *2.* Enter the logon name (up to 255 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The setting is not available when Authentication method is set to anonymous.**

<Password>

Functions	• To set the password for connecting to LDAP server.
Use	• To set the password for connecting to LDAP server.
Setting/ Procedure	• Touch [Password]. • Enter the password (up to 63 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The setting is not available when Authentication method is set to anonymous.**

<Domain Name>

Functions	• To set the Domain Name for connecting to LDAP server.
Use	• To set the Domain Name for connecting to LDAP server.
Setting/ Procedure	*1.* Touch [Domain Name]. *2.* Enter the domain name (up to 64 characters) on the on-screen keyboard, and touch [OK].

<Dynamic Authentication>

Functions	• To set whether to enable or disable the Dynamic Authentication.
Use	• To enable the Dynamic Authentication.
Setting/ Procedure	• The default setting is Disable. Enable "Disable" **NOTE** • **The setting is not available when Authentication method is set to anonymous.**

<Reset All Settings>

Functions	• To return the contents registered in the LDAP server to what they were prior to the shipping.
Use	
Setting/ Procedure	*1.* Touch [Reset All Settings]. *2.* Check the message and touch [Yes].

H. E-Mail Setting

(1) E-Mail TX (SMTP)

<E-Mail TX Setting>

Functions	• To set whether to enable or disable the E-mail transmission setting.
Use	• To disable the E-mail transmission setting.
Setting/ Procedure	• The default setting is ON. "ON" OFF

<SMTP Server Address>

Functions	• To set the SMTP server address.
Use	• To enter the SMTP server address.
Setting/ Procedure	• SMP Server Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch [Host Address]. *2.* Select [IP Address Input], and enter IP Address. *3.* Select [Host Name Input], and enter the host name.

<Binary Division>

Functions	• To set whether to carry out Binary division for data to be transmitted
Use	• Not to carry out Binary division for data to be transmitted
Setting/ Procedure	• The default setting is ON. "ON" OFF

<Divided Mail Size>

Functions	• To set the dividing size when carrying out the Binary division for data to be transmitted.
Use	• To change the dividing size of the data.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the dividing mail size between 100 and 15000 (in 100 increments) using the 10-Key Pad.

<Connection Timeout>

Functions	• To set the Timeout period for connection in transmitting e-mail to SMTP server.
Use	• To change the timeout period for connection in transmitting e-mail to SMTP server.
Setting/ Procedure	• Select the timeout period using [+] / [-] keys. • The default setting is 60 sec. "60 sec." (30 to 300, in 30 sec. increments)

<Server Capacity>

Functions	• To set the Max. capacity per mail which SMTP server can receive.
Use	• To change the Max. capacity per mail which SMTP server can receive.
Setting/ Procedure	• The default setting is No Limit. "No Limit" (1 to 100)

<Detail Setting: Port No.>

Functions	• To set the Port number for transmission with SMTP server.
Use	• To enter the port number for transmission with SMTP server.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the port number between 1 and 65535 using the 10-Key Pad.

<Detail Setting: Authentication Setting>

Functions	• To set the Authentication method to logon to SMTP server.
Use	• To change the Authentication method to logon to SMTP server.
Setting/ Procedure	• The default setting is OFF. "OFF" POP Before SMTP SMTP Authentication • When selecting SMTP Authentication, enter the User ID, the password, and the Domain name.

<Detail Setting: POP Before SMTP Time>

Functions	• To set the time necessary for POP Before SMTP Authentication.
Use	• To change the time necessary for POP Before SMTP Authentication.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the time for POP Before SMTP between 0 and 60 using the 10-Key Pad.

(2) E-Mail RX (POP)

<E-Mail RX Setting>

Functions	• To set whether to enable or disable the e-mail reception setting.
Use	• To disable the e-mail reception setting.
Setting/ Procedure	• The default setting is ON. "ON" OFF

<POP Server Address>

Functions	• To set the POP Server Address.
Use	• To enter the POP Server Address.
Setting/ Procedure	• SMTP Server Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch [Host Address]. *2.* Select [IP Address Input], and enter the IP address. *3.* Select [Host Name Input] to enter the host name, and touch [OK]. *4.* Enter the Login Name (Up to 63 characters). *5.* Enter the password (Up to 15 characters).

<Detail Setting: APOP Authentication>

Functions	• To set whether to use APOP Authentication
Use	• To use APOP Authentication
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Detail Setting: Port No.>

Functions	• To set the Port No. for transmitting with POP server.
Use	• To enter the Port No. for transmitting with POP server.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the Port No. between 1 and 65535 using the 10-Key Pad.

<Detail Setting: Connection Timeout>

Functions	• To set the timeout period for connection in receiving e-mail to POP server.
Use	• To set the timeout period of connection in receiving e-mail to POP server.
Setting/ Procedure	• Select the timeout period of connection using +30/-30 keys. • The default setting is 30 sec. "30 sec." (30 to 300, in 30 sec. increments)

I. Detail Setting

(1) Device Setting

<MAC Address>

Functions	• To display the MAC address of the machine.
Use	• To check the MAC address of the machine.
Setting/ Procedure	• The address cannot be changed.

<Network Speed>

Functions	• To set the Network speed.
Use	• To set the specific network speed.
Setting/ Procedure	• The default setting is Auto. "Auto" 10Mbps Full Duplex 10Mbps Half Duplex 100Mbps Full Duplex 100Mbps Half Duplex **NOTE** • **When Network speed setting is changed, turn off the Main Power Switch and turn it on again more than 10 seconds after.**

(2) Time Adjustment Setting

<NTP Setting>

Functions	• To set whether to enable or disable the NTP setting.
Use	• To synchronize the time between the server and the client.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<NTP Server Address>

Functions	• To set the NTP server address.
Use	• To enter the NTP server address.
Setting/ Procedure	• IP Address Version 4 format [0 to 255] . [0 to 255] . [0 to 255] . [0 to 255] *1.* Touch [Host Address]. *2.* Select [IP Address Input], and enter the IP address. *3.* Select [Host name Input], and enter the Host name.

<Port No.>

Functions	• To set the Port No. for transmitting with NTP server.
Use	• To enter the Port No. for transmitting with NTP server.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the Port number between 1 and 65535 using the 10-Key Pad.

(3) Status Notification Setting

<Notification Address Setting>

Functions	• To set the e-mail address for notifying the machine condition.
Use	• To set the e-mail address for notifying the machine condition.
Setting/ Procedure	*1.* Touch [E-mail Address Edit]. *2.* Enter the E-mail Address (up to 320 characters) on the on-screen keyboard, and touch [OK].

<Notification Item Setting>

Functions	• To set the item for notifying the machine condition with e-mail.
Use	• To set the item for notifying the machine condition with e-mail.
Setting/ Procedure	*1.* Select the item to be notified and touch [ON]. *2.* Touch [OK].

<Notification Time Setting>

Functions	• To set the time necessary for notifying the machine condition by e-mail.
Use	• To change the time necessary for notifying the machine condition by e-mail.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the time for notifying between 1 and 10 using the 10-Key Pad.

(4) PING Confirmation

Functions	• To set the TCP/IP network diagnosis by PING.
Use	• To check the condition of TCP/IP network.
Setting/ Procedure	*1.* Touch [Host Address] for PING transmission. *2.* Select [IP Address Input] to enter IP address. *3.* Select [Host Name Input] to enter the host name. *4.* Touch [Check Connection] key to check the connection.

(5) PSWC Setting

Functions	• To set whether to use the PageScope Web Connection.
Use	• Not to use the PageScope Web Connection.
Setting/ Procedure	• The default setting is Enable. "Enable" Disable

(6) SLP Setting

Functions	• To set whether to use SLP or not.
Use	• Not to use SLP (Service Location Protocol). Device search will be available with TWAIN by setting SLP Enable.
Setting/ Procedure	• The default setting is Enable. "Enable" Disable

(7) LPD Setting

Functions	• To set whether to use LPD during printing or not.
Use	• Not to use LPD during printing.
Setting/ Procedure	• The default setting is Enable. "Enable" Disable

(8) SNMP Setting

Functions	• To set whether to use SNMP or not.
Use	• Not to use SNMP.
Setting/ Procedure	• The default setting is ON. "ON" OFF Read Community name: Enter the Read Community name. Write Community Name: Enter the Write Community Name.

(9) Prefix/Suffix Setting

<ON/OFF Setting>

Functions	• To set whether to add Prefix or Suffix to the address when calling or entering an address.
Use	• To add Prefix or Suffix to the address.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Prefix/Suffix Setting>

Functions	• To register or change the Prefix or Suffix. • Eight types of Prefix and Suffix can be added. Prefix: Letters added to the top of the text (Header part) Suffix: Letters added to the bottom of the text (Footer part)
Use	• To register or change the address displayed for Prefix or Suffix.
Setting/ Procedure	• Available number to be registered as Prefix is up to 20 characters. • Available number to be registered as Suffix is up to 64 characters.

8.6.6 Copier Setting

A. Auto Zoom (Platen)

Functions	• To set whether to function the Auto Zoom when the Tray is selected with document set on the Original Glass (excepting at Automatic Paper Selection mode.)
Use	• To function the Auto Zoom when the Feed Tray is selected.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

B. Auto Zoom (ADF)

Functions	• To set whether to function the Auto Zoom when the Feed Tray is selected with document set on the ADF (excepting at Automatic Paper Selection mode.)
Use	• To function the Auto Zoom when the Tray is selected.
Setting/ Procedure	• The default setting is ON. "ON" OFF

C. Select Tray when APS OFF

Functions	• To set the Tray to be used when APS is cancelled.
Use	• To set the Tray (Tray 1) for the default setting when cancelling APS.
Setting/ Procedure	• The default setting is Tray Before APS ON. "Tray Before APS ON" Default Tray

D. Select Tray for Insert Sheet

Functions	• To select the initial value for the Tray for the Cover sheet paper.
Use	
Setting/ Procedure	• The default setting is Tray 2.

E. Print Jobs During Copy Operation

Functions	• To set whether to receive printing jobs for Print data or Fax data during copy operation.
Use	• To restrict receiving printing jobs for Print data or Fax data during copy operation. Accept : Receives the Print data or Fax data and print Receive Only : Print data or Fax data will be printed when the copy operation is finished
Setting/ Procedure	• The default setting is Accept. "Accept" Receive Only

8.6.7 Printer Setting

A. Local I/F Timeout

Functions	• To set the time until Timeout of communication input / output.
Use	• To set longer time when Timeout occurs according to the network condition.
Setting/ Procedure	• Settings have to be done separately for IEEE1284, USB, and Network. • Each default setting is 60 sec. "60 sec" (10 to 1000)

B. Parallel I/F

Functions	• To set the two-way communication method for Parallel interface.
Use	• To change the two-way communication method for Parallel interface.
Setting/ Procedure	• The default setting is ECP. Compatible Nibble "ECP"

C. IEEE 1284/USB

Functions	• To set the interface to be used when mounting the Local I/F kit.
Use	• To be used when using the Parallel interface.
Setting/ Procedure	• The default setting is USB. IEEE1284 "USB"

8.6.8 Fax Setting

• Settings are available only when the Optional FAX kit (FK-502) is mounted.

A. Header Information

Functions	• To register the name of the sender and Fax ID which will be printed when transmitting Fax.
Use	• To register or change the name of the sender and Fax ID
Setting/ Procedure	*1.* Touch [Sender Name] and enter the name of the sender (up to 30 characters) on the on-screen keyboard.

B. Header/Footer Position
(1) Header Position

Functions	• To set the position to print the header when transmitting Fax.
Use	• To change the position to print the Header.
Setting/ Procedure	• The default setting is Outside Body Text. Inside Body Text "Outside Body Text" OFF

(2) Footer Position

Functions	• To set whether to print the Footer when transmitting Fax.
Use	• To print the Footer when transmitting Fax.
Setting/ Procedure	• The default setting is OFF. Inside Body Text Outside Body Text "OFF"

C. Telephone Line Settings
(1) Dialing Method

Functions	• To set the Dialing method.
Use	• To change the dialing method. • The displays are different depending on the country.
Setting/ Procedure	• The default setting is PB. "PB" 10 pps **NOTE** • **The displays are different depending on the country.**

(2) Receive Mode

Functions	• To set the Fax reception mode.
Use	• To change to manual reception when using the remote reception function, etc. when connected to the external telephone.
Setting/ Procedure	• The default setting is Auto RX. "Auto RX" Manual RX

(3) Number of RX Call Rings

Functions	• To set the number of times to receive call rings.
Use	• To change the number of times of the fake RingBack tone after it starts calling until it starts receiving.
Setting/ Procedure	• The default setting is 2 X. "2 X" (0 to 15)

(4) Number of Redials

Functions	• To set the number of redials.
Use	• To change the number of times to redial when the line is busy, etc. • The line which can be set up is different depending on the country.
Setting/ Procedure	**NOTE** • **The default setting is different depending on the country.**

(5) Redial Interval

Functions	• To set the interval for redialing.
Use	• To change the interval for redialing.
Setting/ Procedure	• The default setting is 3 min. "3 min" (1 to 15)

(6) Line Monitor Sound

Functions Use	• To set whether to output the Line monitor sound from the speaker or not.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(7) Line Monitor Sound Volume

Functions	• To set the volume of the speaker.
Use	• To change the volume of the speaker.
Setting/ Procedure	• Change the volume by touching the [Lower] or [Higher].

D. TX/RX Setting

(1) Duplex Print (RX)

Functions	• To set whether to carry out the Duplex print for the received original when receiving Fax.
Use	• To carry out the Duplex print for the received original.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(2) Inch Paper Priority Over A4

Functions	• To set weather to use the Inch Paper Priority when receiving Fax.
Use	• To use the Inch Paper Priority when receiving Fax.
Setting/ Procedure	ON OFF **NOTE** • **The default setting is different depending on the country.**

(3) Print Paper Selection

Functions	• To set the priority for Paper Feed Tray when receiving Fax.
Use	• To change the priority for Paper Feed Tray when receiving Fax. Auto select : Selected automatically Priority Size : Printed on size with priority. When the size is not set, it will be printed on the closest Size. Fixed Size : Printed only on the fixed size.
Setting/ Procedure	• The default setting is Auto Select. "Auto Select" Fixed Size Priority Size

(4) Print Paper Size

Functions	• To set the paper size to print the text when receiving Fax.
Use	• To change the paper size for printing the received text. • The displays are different depending on the country. • To make the setting of [Print Paper Size] enable, set [Tray Selection for RX Print] to [Auto].
Setting/ Procedure	• The initial setting is A4. A3 B4 "A4" **NOTE** • **The displays are different depending on the country.**

(5) Incorrect User Box No. Entry

Functions	• To set the operation when the unregistered box number is entered.
Use	• To change the operation when the unregistered box number is entered.
Setting/ Procedure	• The default setting is Print. "Print" Show Error Message Auto Create User Box

(6) Tray Selection for RX Print

Functions	• To select the Paper Tray to be fixed when printing the received text.
Use	• To fix the Paper tray when printing the received text.
Setting/ Procedure	• The default setting is Auto. • Items available for selection are different depending on the Paper feed option mounted. "Auto" Tray 1 Tray 2 Tray 3 Tray 4

(7) Min. Reduction for RX Print

Functions	• To set the print magnification for received text.
Use	• To change the print magnification for received text.
Setting/ Procedure	• The default setting is 96. "96" (87 to 96, x1.0)

(8) Print Separate Fax Pages

Functions	• To set whether to divide the original into pages when it is longer than the standard size.
Use	• To divide the original into pages when it is longer than the standard size.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(9) File After Polling TX

Functions	• To set whether to delete the original which Polling transmission has been completed.
Use	• For not deleting the original which polling transmission has been completed.
Setting/ Procedure	• The default setting is Delete. "Delete" Save

E. Function Setting

(1) Function ON/OFF Setting

<F Code TX>

Functions	• To set whether to use the F Code transmission.
Use	• To cancel the F Code transmission.
Setting/ Procedure	• The default setting is ON. "ON" OFF **NOTE** • **When the setting is changed, turn off the Main Power Switch and turn it on again more than 10 seconds after.**

(2) Memory RX

Functions	• To set whether to use the forced memory RX function.
Use	• To store the received text in the hard disk without printing, and print it out when ordered.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • Enter the password (up to 8 digits) for printing when set to [ON].

(3) Closed Network RX

Functions	• To set whether to use the closed network function.
Use	• To receive data only from the device which password matches.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to [ON], enter the password (up to 4 digits) to be used.

(4) Forward TX Setting

Functions	• To set whether to use the Forward Fax function.
Use	• To forward the received text to the receiver which has been specified. Forward & Print : Forward the received text, and print all out Forward & Print (If TX Fails) : Forward the received text, and prints out only when fails to be forwarded
Setting/ Procedure	• The default setting is OFF. "OFF" Forward & Print Forward & Print (If TX Fails) • When set to [ON], set the address to forward to.

(5) Confidential RX Password Check

Functions	• To check the password set in the confidential box.
Use	
Setting/ Procedure	

(6) PC-Fax RX Setting

Functions	• To set whether to use the PC-FAX reception function.
Use	• To store the received text file in the box in the hard disk.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to [ON], specify the address to store the file.

(7) TSI User Box Setting

Functions	• To set whether to use TSI distribution or not.
Use	• To use TSI distribution.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to [ON], set the reception box to receive data

F. PBX CN Set

Functions	• To set whether to use PBX connection setting or not.
Use	• This will be used when the machine is connected to PBX line.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to [ON], enter the external number between 0 and 9999.

G. Report Settings
(1) Activity Report

Functions	• To set whether to print out the Activity Report or not, and also the timing for printing.
Use	• To print out the Activity Report.
Setting/ Procedure	• The default setting is Every 100 Comm. OFF Daily "Every 100 Comm." 100/ Daily

(2) TX Report

Functions	• To set whether to print out the TX Report, and also the timing for printing.
Use	• To print out the TX Report.
Setting/ Procedure	• The default setting is If TX Fails. ON "If TX Fails" OFF

(3) Sequential TX Report

Functions	• To set whether to print out the Sequential TX Report or not.
Use	• To print out the Sequential TX Report.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(4) Timer Reservation TX Report

Functions	• To set whether to print out the reservation TX or not.
Use	• To print out the reservation TX.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(5) Confidential RX Report

Functions	• To set whether to print out the Confidential RX Report.
Use	• To print out the Confidential RX Report.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(6) Bulletin TX Report

Functions	• To set whether to print out the Bulletin TX Report or not.
Use	• To print out the Bulletin TX Report.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(7) Broadcast Result Report

Functions	• To set the format to output the Broadcast Result Report.
Use	• To print out the Broadcast Result Report All Dest. : Outputs all reports after transmitting to all addresses 1 Dest. at a time : Outputs a report after each transmission
Setting/ Procedure	• The default setting is All Dest. "All Dest." 1 Dest. at a time

(8) Paper Tray for Reports

Functions	• To set the Paper Feed Tray to output reports.
Use	
Setting/ Procedure	• The default setting is Tray 2. • Items available to be selected are different depending on Paper feed option mounted. Bypass Tray Tray 1 "Tray 2" Tray 3 Tray 4

(9) TX Result Report Check

Functions	• To set whether to display the TX Result Report screen.
Use	• To display the TX Result Report screen.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

H. Job Settings List

Functions	• The set value list of the fax set up into this machine can be printed.
Use	
Setting/ Procedure	*1.* Touch [Administrator Setting] → [Fax Setting] → [Job Settings List]. *2.* Select the Paper Feed Tray and press the Start key.

8.6.9 System Connection

A. IS OpenAPI Setting

(1) Access Setting

Functions	• To allow or restrict the access from other systems with IS OpenAPI when using Page Scope Data Administrator.
Use	• To restrict access from other systems with IS OpenAPI.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

(2) Port No.

Functions	• To set the access port for other systems with IS OpenAPI when using Page Scope Data Administrator.
Use	• To change the access port number for other systems with IS OpenAPI.
Setting/ Procedure	*1.* Select Port No. or Port Number (SSL), and touch [Input]. *2.* Press the Clear key. *3.* Enter the port number between 1 and 65535 using the 10-Key Pad.

(3) SSL

Functions	• To set whether to encrypt access from other systems by SSL when using Page Scope Data Administrator.
Use	• To encrypt access by SSL from other systems using IS OpenAPI.
Setting/ Procedure	• The default setting is OFF. ON "OFF" **NOTE** • **To use SSL, the certification needs to be issued at PageScope Web Connection before hand.**

(4) Authentication

Functions	• To set whether to authenticate access of other systems which uses OpenAPI when using PageScope Data Administrator.
Use	• To set authentication of the access from other systems using OpenAPI.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When setting to [ON], enter the Login Name and the Password to be set.

B. Admin. transmission

Functions	• To call the CS Remote Care Center from the Administrator, When the CS Remote Care setup is complete.
Use	
Setting/ Procedure	☞ For details, see page 250 "CS Remote Care."

8.6.10 Security Setting

A. Administrator Password

Functions	• To set/change the Administrator Password.
Use	• To change the Administrator Password.
Setting/ Procedure	• Enter the Administrator password on the on-screen keyboard. Current Password : Enter the current Administrator password New Password : Enter the new Administrator password to be used Re-Input Password : Reenter the new Administrator password **NOTE** • **When selecting Utility → [Administrator Setting] → [Security Setting] → [Security Details] leads to [Password Rules] being ON, the password with the same letters, the password which is same as the previous one and the password of less than eight digits cannot be changed.**

B. User Box Admin. Setting

Functions	• To set whether to allow or restrict the Box Administrator to use the system.
Use	• To allow the Box Administrator to use the system. The Box Administrator is the special administrator for box, who is allowed to browse contents in Common Box / Individual Box without the password. **NOTE** • **[Allow] cannot be set when the User Authentication or Account Track is not carried out.**
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict” * The password is input when setting it to “Allow.”

C. Administrator Security Level

Functions	• To set the level for Administrator setting item open to the user.
Use	• To make part of the Administrator setting items open to the user. Level 1 : [Power Save Setting], [Auto Magnification Selection (Platen)], [Auto Magnification Selection (ADF)], [Specify Default Tray when APS Off], and [Select Tray for Insert Sheet] are available to users. Level 2 :[Power Save Setting], [Output Setting], [Date/Time Setting], [Daylight Savings Time Setting], [AE Level Adjustment], [Auto Magnification Selection (Platen)], [Auto Magnification Selection (ADF)], [Specify Default Tray when APS Off], [Select Tray for Insert Sheet], and [Print Jobs During Copy Operation] are available to users. Prohibit : Not to allow the user to set neither Level 1 nor Level 2
Setting/ Procedure	• The default setting is Prohibit. Level 1 Level 2 “Prohibit”

D. Security Details

(1) Password Rules

Functions	• To set whether to apply the Password rules.
Use	• To apply the password rule to enhance security. • Passwords to be covered: Password for CE, Administrator, Box user authentication, Fax confidential print, Classified document, User authentication, and Box transmission • Details of the Password Rules: Password except User password, Box transmission password shall be 8 digits of one-bite alphanumeric characters. (Case-sensitive) User password shall be 8 digits of one-bite alphanumeric characters. (Case-sensitive) Box transmission password shall be 8 digits of one-bite alphanumeric characters. Password with only the same letter is prohibited. Password same with the one prior to change is prohibited. When the password rule is set to [ON], the password cannot be changed or registered unless it follows the above conditions.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Manual Destination Input

Functions	• To set whether to allow or prohibit to manually enter the destination address on the Destination Input screen.
Use	• To prohibit entering the destination address manually.
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

(3) Print Data Capture

Functions	• To set whether to allow or restrict capturing the Print Job Data.
Use	• To be used when carrying out [Service Mode] → [System 2] → [Data capture].
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

E. HDD Setting

(1) Check HDD Capacity

Functions	• To display the used space capacity, total space capacity, and the remaining capacity of the hard disk.
Use	• To check the capacity and the status of use of the hard disk

(2) Delete Unused User Box

Functions	• To delete the unnecessary box without data.
Use	
Setting/ Procedure	*1.* Touch [Delete Unused User Box]. *2.* Touch [Yes] on the Check screen.

(3) Delete Secure Documents

Functions	• To delete the whole classified documents in the hard disk.
Use	
Setting/ Procedure	*1.* Touch [Delete Secure Documents]. *2.* Touch [Yes] on the Check screen.

(4) Overwrite All Data

Functions	• To delete the whole data in the hard disk by overwriting.
Use	• To be used when disposing the Hard disk.
Setting/ Procedure	*1.* Touch [Overwrite All Data]. *2.* Touch [Overwrite]. *3.* Touch the [Yes] key on the Check screen. *4.* Turn OFF the Main Power Switch and turn it ON again more than 10 seconds after.

(5) HDD Lock Password

Functions	• To set the Lock Password for the hard disk.
Use	• To enter, change or delete the Lock Password for the hard disk.
Setting/ Procedure	*1.* Touch [HDD Lock Password]. *2.* Enter the password (20 characters) on the on-screen keyboard, and touch [OK]. *3.* Re-enter the password to confirm. *4.* Turn OFF the Main Power Switch and turn it ON again more than 10 seconds after.

9. Adjustment item list

Adjustment/Setting Items				No	Replace Paper Feed Roller	Replace Paper Separation Roller Assy	Change Paper (Tray 1) Kind	Change Marketing Area	Install Paper Feed Unit	Replace CCD Unit	Replace Mirror Unit	Replace IU	Replace Image Transfer Belt Unit
Replacement Part/Service Job													
Service Mode	Machine	Printer Area	Print Positioning: Leading Edge	1			❍						
			Print Positioning: Side Edge	2					❍				
			Dup Print Positioning: Side	3									
		Scan Area	Image position: Leading Edge	4									
			Image position: Side Edge	5						(4)			
			Cross Direction Adjustment	6						(3)			
			Feed Direction Adjustment	7							(3)		
		Org. Detecting Sensor Adj.		8				❍					
	Touch Panel Adjust			9									
	State Confir-mation	Memory/ HDD Adjust	HDD R/W Check	10									
			HDD Format	11									
		Table Number		12									
	Firmware Version			13									
	System1, 2	Reentry of Setting Values		14									
		Serial Number		15									
		Scan Calibration		16						(1)			
		Line Mag Setting		17						(2)			
	Counter	Life	Counter Clear	18	❍	❍							
	Image Process Adjustment		Gradation Adjust	19								❍	❍
Re-entry of Utility settings				20									
Re-entry of Enhanced Security settings				21									
Parallel adjustment of Scanner/Mirrors Carriage				22							(1)		
Positioning Exposure Unit				23							(2)		
Scanner Motor belt adjustment				24									
PH skew adjustment				25									
F/W upgrading				26									
Installation of Original Size Sensor				27									
Remounting of Parameter Chip (Control Board)				28									
Remounting of NVRAM (MFP Control Board)				29									
Replace Image Transfer Belt Unit				30									

✻ This table shows the adjustment items that are required when a part of the machine has been replaced. Priority order, if applicable, during the adjustment procedures is indicated by the corresponding number in the parentheses.

No	Replace Original Size Detecting Sensor	Replace PH Unit	Wind Scanner Drive Cables	Replace Scanner Motor	Replace Scanner Assy	Replace Scanner Home Sensor	Replace Mechanical Control Board	Replace MFP Control Board	Replace Image Processing Board	Replace Original Glass	Replace IDC/Registration Sensor/1,2	Replace Hard Disk	Add Key Counter / D-103	Execute Memory Clear	Execute Add. Option	Execute F/W update	Add FAX Board
1		(2)															
2		(3)															
3																	
4										(2)							
5						❍				(1)							
6																	
7			(4)	(2)	(2)												
8	(3)																
9														(6)			
10												(2)					
11												(1)					
12	(2)													(2)			
13															❍	❍	
14														(4)			
15														(3)			
16																	
17																	
18																	
19																	
20														(1)			
21													❍	(5)			
22			(2)														
23			(3)		(1)												
24			(1)	(1)													
25		(1)															
26							(2)	(2)	❍								❍
27	(1)																
28							(1)										
29								(1)									
30											❍						

10. Service Mode

10.1 Service Mode function setting procedure

NOTE

- **Ensure appropriate security for Service mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.**

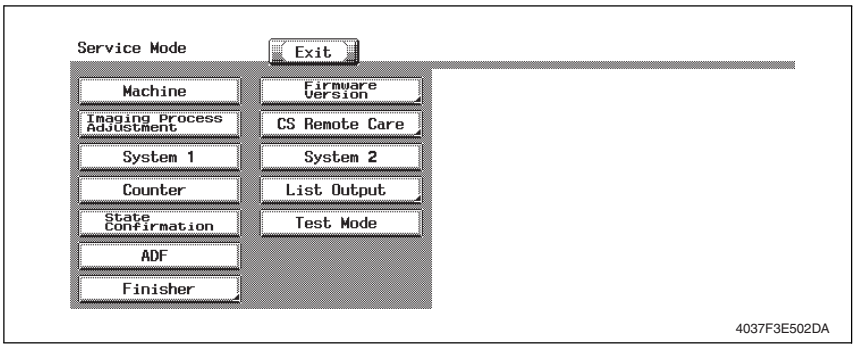
A. Procedure

1. Press the Utility/Counter key.
2. Touch [Details] on Meter Count display.
3. Press the following keys in this order.
   Stop → 0 → 0 → Stop → 0 → 1

NOTES

- **When selecting [CE Authentication] under [Enhanced Security] available from Service Mode, authentication by CE password is necessary.**
  Enter the 8 digits CE password, and touch [END].
  (The initial setting for CE password is "92729272.")
- **If a wrong CE password is entered, re-enter the right password. The machine will not enter Service Mode unless the CE password is entered correctly. To return to the Basic screen, turn OFF the Sub Power Switch and turn it ON again.**
- **The service code entered is displayed as "∗."**

4. The Service Mode menu will appear.



NOTE

- **Be sure to change the CE Password from its default value.**
- **For the procedure to change the CE Password, see the Enhanced Security.**

☞ 296

B. Exiting

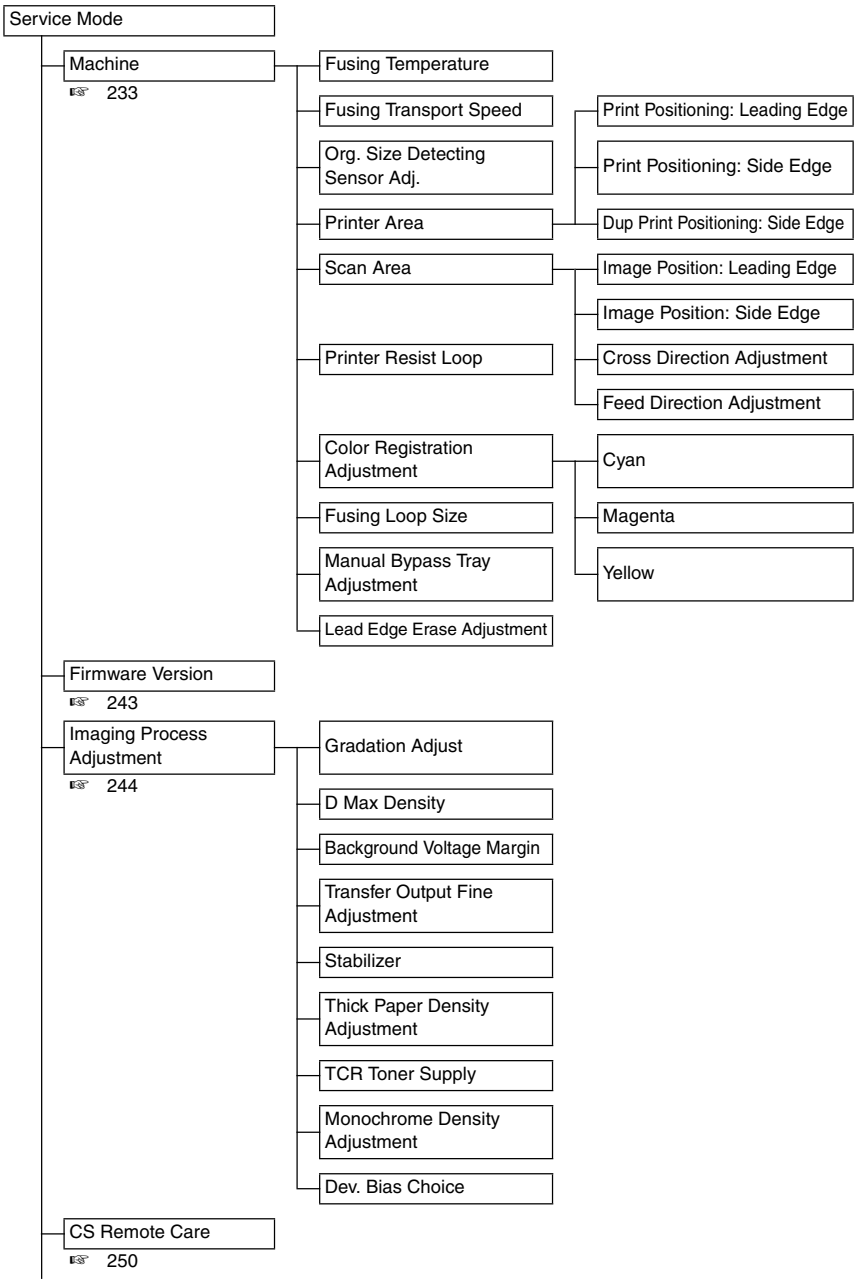
- Touch the [Exit] key.

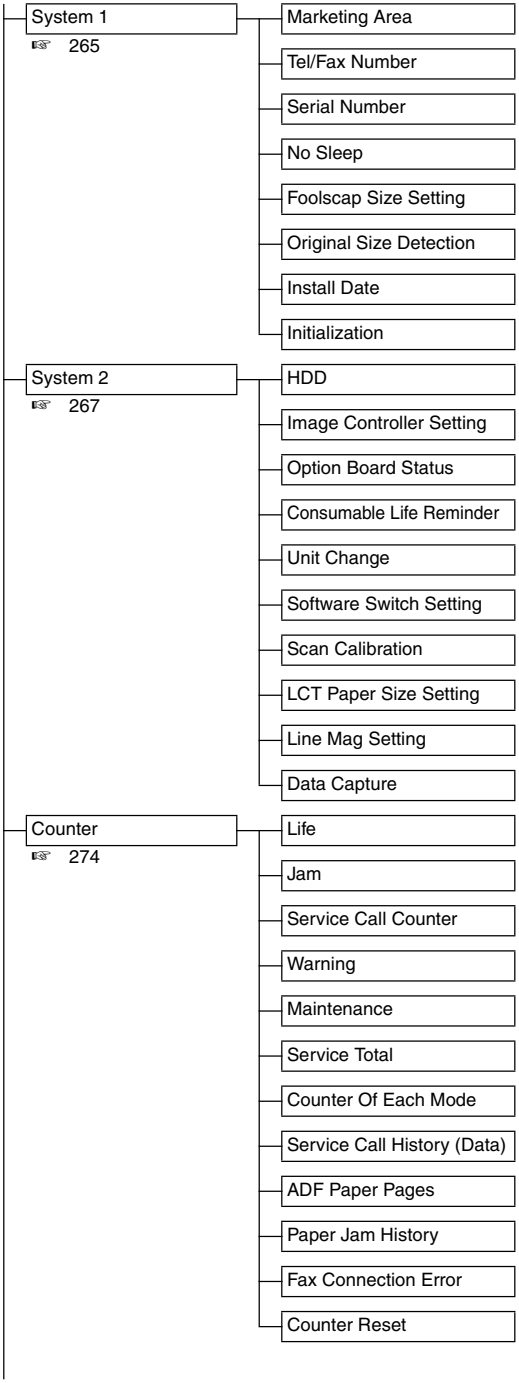
C. Changing the Setting Value in Service Mode Functions

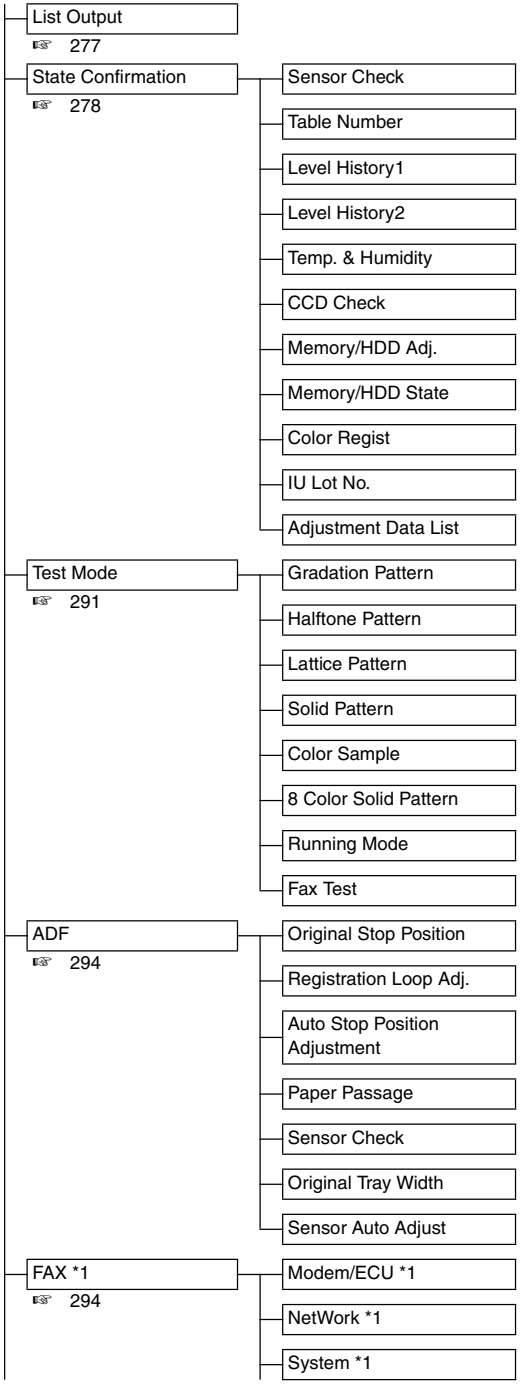
- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

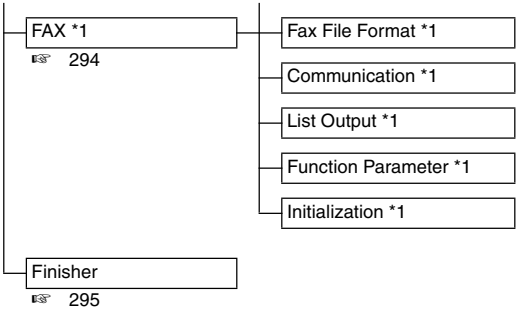
10.2 Service Mode function tree

* The function tree is shown to comply with the format displayed on the screen.
*1: Settings are available only when the Optional FAX Kit (FK-502) is mounted.




System 1
☞ 265
Marketing Area
Tel/Fax Number
Serial Number
No Sleep
Foolscap Size Setting
Original Size Detection
Install Date
Initialization
System 2
☞ 267
HDD
Image Controller Setting
Option Board Status
Consumable Life Reminder
Unit Change
Software Switch Setting
Scan Calibration
LCT Paper Size Setting
Line Mag Setting
Data Capture
Counter
☞ 274
Life
Jam
Service Call Counter
Warning
Maintenance
Service Total
Counter Of Each Mode
Service Call History (Data)
ADF Paper Pages
Paper Jam History
Fax Connection Error
Counter Reset

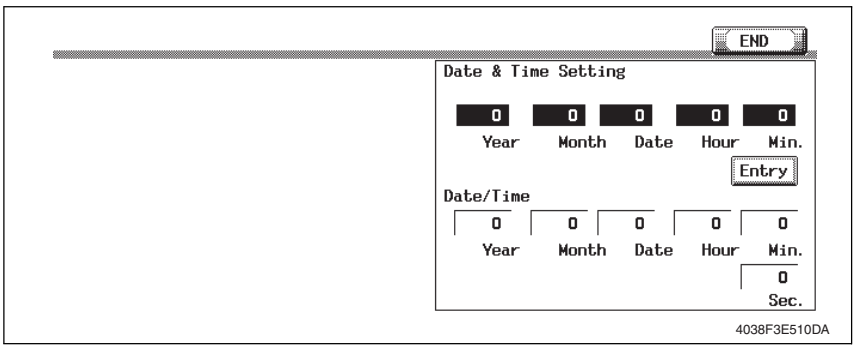

List Output
☞ 277
State Confirmation
☞ 278
Sensor Check
Table Number
Level History1
Level History2
Temp. & Humidity
CCD Check
Memory/HDD Adj.
Memory/HDD State
Color Regist
IU Lot No.
Adjustment Data List
Test Mode
☞ 291
Gradation Pattern
Halftone Pattern
Lattice Pattern
Solid Pattern
Color Sample
8 Color Solid Pattern
Running Mode
Fax Test
ADF
☞ 294
Original Stop Position
Registration Loop Adj.
Auto Stop Position Adjustment
Paper Passage
Sensor Check
Original Tray Width
Sensor Auto Adjust
FAX *1
☞ 294
Modem/ECU *1
NetWork *1
System *1



10.3 Date/Time Input mode

- This mode is used to set time-of-day and date.

10.3.1 Date & Time Setting mode screen



A. Date & Time Setting mode setting procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 1 → 1 → 4 → 4 → Clear
3. Enter year, month, day, hour, and minute, in that order, from 10-key Pad.
   (Year 4 digits → Month 2 digits → Day 2 digits → Hour 2 digits → Minute 2 digits)

NOTE

- **When setting the month, day, hour, or minute, enter "0" first if the data one digit.**

4. Make sure that correct figures have been entered and then touch [Entry].
5. Touch [END] to return to the Service Mode.

10.4 Machine

10.4.1 Fusing Temperature

Functions	• To adjust individually the temperature of the Heating Roller and the Fusing Pressure Roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions.
Use	• When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change. • By setting the temperature higher (+), gloss of print or OHP transparencies can be improved. • By setting the temperature lower (-), Exit Roller mark or uneven transparencies of OHP can be reduced.
Adjustment Range	Heating Roller : 0 °C to +10 °C (step: 5 °C) ..... Thick 3 :-10 °C to +10 °C (step: 5 °C) ..... others Pressure Roller : 0 °C to +10 °C (step: 5 °C) ..... Thick 3 :-10 °C to +10 °C (step: 5 °C) ..... others
Adjustment Instructions	If fusing performance is poor, increase the setting. If wax streaks occur, decrease the setting. If offset is poor, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Fusing Temperature]. *3.* Select the paper type and Fusing Roller type. *4.* Enter the new setting from the [+] / [-] key. *5.* The temperature does not change immediately when the setting is change. Wait a while before performing the subsequent steps. **NOTE** • **As a general rule, do not adjust the fusing temperature on the pressure application side.** *6.* Touch [END] to validate the adjustment value. *7.* Check the copy image for any image problem. *8.* Make the adjustment for each type of paper.

10.4.2 Fusing Transport Speed

Functions	• To adjust the speed of the Fusing Drive Motor so as to match the fusing speed with transport speed.
Use	• Brush effect or blurred image is evident as a result of changes in environmental conditions or degraded durability.
Variable Range	-2 % to +2 % (in 0.1 % increments)
Adjustment Instructions	If brush effect is evident, vary the setting value and check for image. If a blurred image occurs, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Fusing Transport Speed]. *3.* Select the transport speed, at which the brush effect or blurred image has occurred. *4.* Enter the new setting from the 10-key pad. *5.* Touch [END] to validate the adjustment value. *6.* Check the copy image for any image problem.

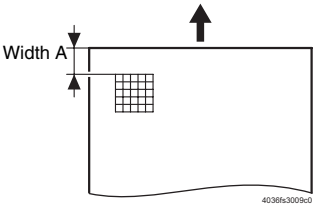
Transport speed	Paper Setting
110 mm/s	Plain paper: monochrome/color
55 mm/s	Thick paper, OHP film, Envelope, Postcard, Labels: monochrome, color

10.4.3 Org. Size Detecting Sensor Adj.

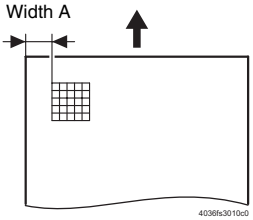
Functions	• To automatically adjust the original detection distance for the Original Size Sensor. • To display if the Original Size Detecting Sensor/2 is mounted.
Use	• When the sensor is replaced with a new one. • When an optional sensor has been added. • When an erroneous original size detection is made. • When the marketing area setting is changed.
Adjustment Instructions	If the adjustment has been successfully made, it completes the adjustment procedure. If the adjustment has turned out to be unsuccessful, check the optional Original Size Sensors for correct installation and change the defective sensor or harness.
Setting/ Procedure	*1.* Place a blank sheet of A3 or 11 × 17 paper on the Original Glass and lower the Original Cover. *2.* Call the Service Mode to the screen. *3.* Touch these keys in this order: [Machine] → [Org. Size Detecting Sensor Adj.]. *4.* Press the Start key.

10.4.4 Printer Area

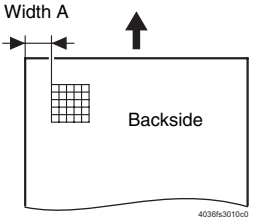
A. Print Positioning: Leading Edge

Functions	• To vary the print start position in the sub scan direction for each of different paper types in Tray 1.
Use	• The PH Unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the sub scan direction. • A faint image occurs on the leading edge of the image.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 4.2 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine] → [Printer Area] → [Print Positioning: Leading Edge]. *3.* Select the [Plain Paper]. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [END]. *11.*Following the same procedure, adjust for Thick 1 to 3, OHP Film, and Enve.

B. Print Positioning: Side Edge

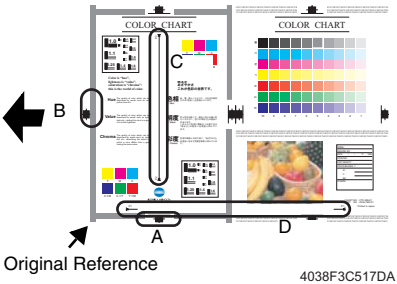
Functions	• To vary the print start position in the main scan direction for each paper source.
Use	• The PH Unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the main scan direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine] → [Printer Area] → [Print Positioning: Side Edge]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [END]. *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Bypass.)

C. Dup Print Positioning: Side Edge

Functions	• To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
Use	• The image on the backside of the 2-sided copy deviates in the main scan direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications: 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine] → [Printer Area] → [Dup Print Positioning: Side Edge]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern on the backside of the copy. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [END]. *11.*Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Manual Bypass Tray.)

10.4.5 Scan Area

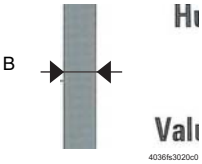
- Use the following Color Chart for the adjustment of the Scanner Section.
- If the Color Chart is not available, a scale may be used instead.



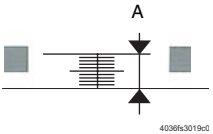
4038F3C517DA

- A: Image Position: Side Edge
- B: Image Position: Leading Edge
- C: Cross Direction Adjustment
- D: Feed Direction Adjustment

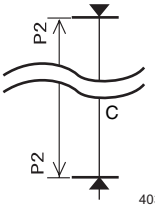
A. Image Position: Leading Edge

Functions	• To adjust variations in mounting accuracy and sensitivity of the Scanner Home Sensor and in mounting accuracy of the Original Width Scale by varying the scan start position in the main scan direction.
Use	When the Original Glass is replaced. When the Original Width Scale is replaced.
Adjustment Specification	 4036fs3020c0 •B width on the color chart and one on the copy sample are measured and adjusted so that the difference of B width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Print Positioning: Leading Edge] of Printer Area. Specifications B: ± 0.5 mm (10 ± 0.5 mm if a scale is used) Setting Range -5.0 to +5.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Image Position: Leading Edge]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If width B on the copy falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

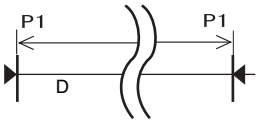
B. Image Position: Side Edge

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the main scan direction.
Use	• When the CCD Unit is replaced. • When the Original Glass is replaced. • The Scanner Home Sensor has been replaced.
Adjustment Specification	 •A width on the color chart and one on the copy sample are measured and adjusted so that the difference of A width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Print Positioning: Side Edge] of Printer Area. Specifications A: ± 1.0 mm Setting Range -10.0 to +10.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Image Position: Side Edge]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make a copy. *8.* Check point A of the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

C. Cross Direction Adjustment

Functions	• To adjust the zoom ratio in the main scan direction for the Scanner Section
Use	• The CCD Unit has been replaced.
Adjustment Specification	 4038F3C516DA •Measure C width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of Printer Area. Specifications C: ± 1.0 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the C width on the copy sample is less than one on color chart, increase the setting. If the C width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Cross Direction Adjustment]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the C width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

D. Feed Direction Adjustment

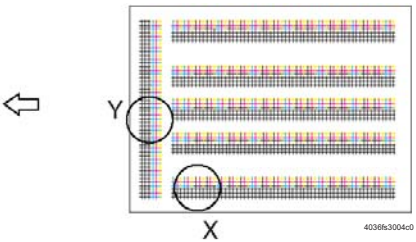
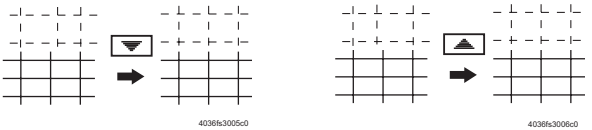
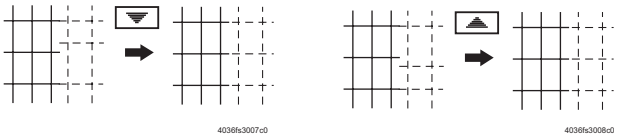
Functions	• To adjust the zoom ratio in the sub scan direction for the Scanner Section
Use	• The Scanner Assy has been replaced. • The Scanner Motor has been replaced. • The Scanner Drive Cables have been replaced.
Adjustment Specification	 4038F3C518DA •Measure D width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of Printer Area. Specifications D: ± 1.5 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the D width on the copy sample is less than one on color chart, increase the setting. If the D width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Feed Direction Adjustment]. *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the D width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

10.4.6 Printer Resist Loop

Functions	• To set the correction value of the paper loop length for each process speed of Tray 1 to Tray 4, Bypass, and Duplex. • To adjust the length of the loop formed in paper before the Registration Rollers. • Use “Paper Passage” for paper passage check.
Use	When a paper skew occurs. When a paper misfeed occurs.
Adjustment Range	Different setting ranges are set for different transport speeds. <Tray 1 to Tray 4, LCT, Bypass> 110 mm/s : -8 to +8 55 mm/s : -15 to +15 <Duplex> 110 mm/s : -8 to +8 55 mm/s : -8 to +8
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Printer Resist Loop]. *3.* Select the transport speed. *4.* Enter the new setting from the 10-key pad.

10.4.7 Color Registration Adjustment

A. Cyan, Magenta, Yellow

Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper.
Use	• To correct any color shift
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Color Registration Adjustment]. *3.* Load Tray 1 with A3/11x17 or A4/8 1/2x11 Plain paper. *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the color to be adjusted. *7.* Using the [+] / [-] key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  Adjustment for X direction: Check point X If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C Direction of D  Adjustment for Y direction: Check point Y If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C Direction of D 

10.4.8 Fusing Loop Size

Functions	• To vary the timing to start fusing loop processing and adjust the fusing loop size at Envelope printing.
Use	• To be used when paper wrinkle or transfer misalignment occur at Envelope printing. Adjustment in +: Delay the timing to start fusing loop processing Adjustment in -: Put ahead the timing to start fusing loop processing
Setting/ Procedure	• The default setting is 0. “0” (-2 to +2)

10.4.9 Manual Bypass Tray Adjustment

Functions	• To set the maximum width and the minimum width for the Manual Bypass Paper Size Unit of the Manual Bypass Guide
Use	• Use when the Manual Bypass Paper Size Unit of the Manual Bypass Guide has been changed. • Use when a false paper size is displayed when the manual Bypass is used.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Manual Bypass Tray Adjustment]. *3.* Touch [Max. Width]. *4.* Load the Bypass Tray with paper having a width of 301 mm. *5.* Press the Start key and check that the results are [OK]. *6.* Touch [Min. Width.]. *7.* Load the Bypass Tray with paper having a width of 89 mm. *8.* Press the Start key and check that the results are [OK]. ✻ Make the adjustment again if the results are [NG].

10.4.10 Lead Edge Erase Adjustment

Functions	• To set the leading edge erase amount of the paper.
Use	• To change the width of the area not printed along the leading edge of the paper
Setting/ Procedure	• The default setting is 4 mm. “4 mm” 5 mm 7 mm

10.5 Firmware Version

Functions	• To check the Firmware version.
Use	• Use when the firmware is upgraded. • When the firmware is upgraded or PWB is replaced.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Firmware Version]. *3.* Select the appropriate key from 1 to 3 to check the Firmware Version.

10.6 Imaging Process Adjustment

10.6.1 Gradation Adjust

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the Scanner
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The Image Transfer Belt Unit has been replaced. ✻ The Adj. Values of Max. and Highlight shown on the Gradation Adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density. ✻ The closer the Conv. Value to 0, the more ideal the image. • Gradation Mode : It gives the highest priority to gradation performance of the image as it adjusts. • Resolution Mode : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • High Compression Mode : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Specification	Max : 0 ± 100 Highlight : 0 ± 60
Setting/ Procedure	*1.* Touch [Gradation Adjust]. *2.* Select the appropriate mode for the gradation adjustment. *3.* Press the Start key to let the machine produce a test pattern. *4.* Place the test pattern produced on the Original Glass. *5.* Place ten blank sheets of A3 paper on the test pattern and lower the Original Cover. *6.* Press the Start key. (The machine will then start scanning the test pattern.) *7.* Touch [OK] and repeat steps from 2 through 6 twice (a total of three times). *8.* Touch [Gradation Adjust] to display the Adj. Values and Conv. Values of each color (C, M, Y and K) for Max and Highlight. *9.* Use the following procedures to check the Conv. Value. **Max: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.** **If neither Max nor Highlight falls outside the ranges specified above: Perform steps from 2 to 6.** • If a fault is detected, “0” is displayed for all values. In that case, after turning off the Main Power Switch, turn it on again more than 10 seconds after and then make the Gradation Adjustment again. • If either Max or Highlight still remains outside the specified ranges perform D Max Density. • If a total of four sequences of Gradation Adjust do not bring the values into the specified range, check the image. • If the image is faulty, perform the troubleshooting procedures for image problems.

10.6.2 D Max Density

Functions	• To adjust gradation, color, and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of gamma of each color after Gradation Adjust.
Use	• An image quality problem is not corrected even after Gradation Adjust has been run.
Adjustment Range	"0" (-10 to +10)
Adjustment Instructions	To increase the maximum amount of toner sticking, increase the setting value. To decrease the maximum amount of toner sticking, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [D Max Density]. *3.* Select [COPY] or [Printer]. *4.* Select the color to be adjusted. *5.* Enter the new setting from the 10-key Pad. *6.* Touch [END] to return to the [Process] menu screen. *7.* Touch [Stabilizer]. *8.* Touch [Stabilizer Mode]. *9.* Press the Start key to validate the adjustment value. *10.*Check the copy image for any image problem. **NOTE** • **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.6.3 Background Voltage Margin

Functions	• To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after Gradation Adjust.
Use	• Use when a foggy background occurs due to a printer problem
Adjustment Range	"0" (-5 to +5)
Adjustment Instructions	To make the background level foggier, increase the setting value. To make the background level less foggy, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Background Voltage Margin]. *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-key Pad. *5.* Touch [END] to return to the [Image Adjust] menu screen. *6.* Touch [Stabilizer]. *7.* Touch [Stabilization Only]. *8.* Press the Start key to validate the adjustment value. *9.* Check the copy image for any image problem. **NOTE** • **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.6.4 Transfer Output Fine Adjustment

A. 2nd Transfer Adjust

Functions	• Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
Use	• To use when the transfer failure at the trailing edge occurs.
Adjustment Range	"0" (-5 to +5)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image), decrease the setting value. To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Transfer Output Fine Adjustment]. *3.* Select the side of the image (First side or Second side), on which the transfer failure at the trailing edge occurs. *4.* Select the paper type with the transfer failure at the trailing edge. *5.* Enter the new setting from the [+] / [-] keys. *6.* Touch [END] to validate the adjustment value. *7.* Check the copy image for any image problem.

B. 1st Transfer Adjust

Functions	• Adjust the output value for the 1st image transfer voltage.
Use	• To use when white spots appeared.
Adjustment Range	"0" (-5 to +5)
Adjustment Instructions	Adjust the output value for the 1st image transfer voltage by; Increasing it: Increase the setting value (white spots will decrease) Decreasing it: Decrease the setting value
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Select [Test Mode] → [Halftone Pattern] to output the red or green test pattern. ☞ 292 *3.* When the test pattern image has white spots, adjust with the following procedure. *4.* Touch these keys in this order: [Imaging Process Adjustment] → [Transfer Output Fine Adjustment]. *5.* Select [1st transfer Adjust]. *6.* Change the setting value using the [+] / [-] keys. *7.* Touch [OK] key to set the adjustment value. Gradually increase the adjustment value to the acceptable white spots level while checking the test pattern. **NOTE** **• PC Drum memory (94mm pitch) may occur by taking measure to white spots occurred by increasing the 1st image transfer voltage to adjust it. Check the image on the test print or the color chart when adjusting.** **• The value for the 1st image transfer adjustment will be reset when the new transfer belt unit is detected. The value will be 0.**

10.6.5 Stabilizer

A. Stabilization Only

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • When D Max Density and Background Voltage Margin of Service mode are changed.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Stabilization Only]. *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

B. Initialize+Image Stabilization

Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after Stabilizer Mode has been executed. • Use when adjusting the PH skew.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Initialize+Image Stabilization]. *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

10.6.6 Thick Paper Density Adjustment

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies.
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	Lighter (5 steps), “Std”, Darker (5 steps)
Adjustment Instructions	Light color: Touch the Darker key. Dark color: Touch the Lighter key.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Thick Paper Density Adjustment]. *3.* Touch the Lighter or Darker key for the desired color to correct the image density.

10.6.7 TCR Toner Supply

Functions	• To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of copies have been made of originals having a high image density.
Use	• When there is a drop in T/C.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [TCR Toner Supply]. *3.* Select the color, for which supply of toner is to be replenished. *4.* Pressing the Start key will let the machine detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run. *5.* These sequences are repeated up to a maximum of four times until the toner density reaches the reference value. If the toner density is found to be higher than the reference value, only a developer agitation sequence is carried out.

10.6.8 Monochrome Density Adjustment

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	Lighter (2 steps), “Std”, Darker (2 steps)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Monochrome Density Adjustment]. *3.* Touch the Lighter or Darker key as necessary to correct the image density.

10.6.9 Dev. Bias Choice

Functions	• To change the setting of the developing bias voltage • When this function is turned ON, it decreases the developing bias voltage, thereby preventing voltage leak from occurring.
Use	• Use when patches of white occur in the image in an ambience of low atmospheric pressure, such as in high altitudes. • If ON is set, the screen doesn't display [Service Mode] → [Imaging Process Adjustment] → [Gradation Adjust] and the Gradation Adjust is not allowed.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

10.7 CS Remote Care

10.7.1 Outlines

- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone line in order to control the machine.
- CS Remote Care enables the machine to call the computer at the center when trouble occurs. It also enables the computer at the center to contact the machine for the necessary data.
- Data which CS Remote Care handles can be divided into the following groups.
  a. Data which show the status of use of the machine such as Total count, PM count.
  b. Data which show the abnormal situation on the machine such as where and how often errors occur.
  c. Data on adjustment
  d. Data on setting

10.7.2 Setting Up the CS Remote Care

NOTE

- **For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.**

☞ For clearing the RAM, see page 259.

- **When using the telephone line for connection, use the recommended modem. (For recommended modem, contact responsible person of KONICA MINOLTA.)**

Step	Procedure
0	Register the device ID to the application at CS Remote Care Center. The initial connection is not available unless the device ID is registered.
1	Connecting the modem Turn the power for the modem OFF. Connect the machine and the modem with a modem cable. Connect the modem and the wall jack with a modular cable. * For connecting the modular cable, see the manual for the modem.
2	Clearing the RAM *1.* Select [Service Mode] → [CS Remove Care], and touch [Detail Setting]. *2.* Touch [RAM Clear]. *3.* Select Set, and touch [END]. ☞ 259
3	Selecting the CS Remote Care function Select [Service Mode] → [CS Remove Care] → [System Selection], and touch [Modem].
4	Inputting the ID Code *1.* Select [Service Mode] → [CS Remote Care] → [ID Code], and touch [ID Code]. *2.* Input the seven digits ID of the service person, and touch [ID Code] again. ☞ 258
5	Setting the date and time for CS Remote Care *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Date & Time Setting]. *3.* Input the date, time and the time zone using the 10-Key Pad, and touch [Set]. ☞ 259
6	Setting the Center ID *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Machine Setting] → [Center ID], and input the Center ID (five digits). ☞ 259

Step	Procedure
7	Setting the Device ID *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Machine Setting] → [Device ID], and input Device ID (nine digits). ☞ 259
8	Setting the telephone number of the Center *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Machine Setting] → [Center Telephone Number]. *3.* Input the telephone number of the Center using the 10-Keys Pad and [P], [T], [W], [-] keys. ☞ 259
9	Inputting the Device telephone number *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Machine Setting] → [Device Telephone Number]. *3.* Input the Device telephone number using the 10-Key Pad and [P], [T], [W], [-] keys. ☞ 259
10	Inputting the AT command for initializing the modem *1.* Select [Service Mode] → [CS Remote Care] → and touch [Detail Setting]. *2.* Touch [AT Command]. *3.* Input AT Command. **NOTE** • **Change this Command only when it is necessary. (They do not need to be changed in normal condition.)** • **For details on AT Command, see the manual for the modem.** ☞ 260
11	Setting the DIPSW for CS Remote Care **NOTE** • **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**
12	Executing the initial transmission *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [initial transmission] on the right bottom of the screen to start initial transmission. *3.* When the machine is properly connected with the Center, CS Remote Care setting screen will be displayed. **NOTE** • **The initial transmission key at the right bottom of the screen will be displayed only when the Center ID, the Device ID, Telephone number of the Center and the Device telephone number have been input.** ☞ 258

10.7.3 Software SW setting for CS Remote Care

NOTE

- **SW bits data are written into the NVRAM every time a change is made. In case you changed bit data by accident, be sure to restore the previous state.**

A. Input procedure

1. Select [Service Mode] → [CS Remote Care] → [Detail Setting], and touch [Software Switch Setting].
2. Touch [Switch No.], and input the SW number (two digits) using the 10-Key Pad.
3. Touch [Bit Assignment], and select SW bit number using the arrow keys, and input 0 or 1 using the 10-Key Pad.
   (For setting by hexadecimal numbers, touch [HEX Assignment] key, and input using the 10-Key Pad or A to F keys.)
4. Touch [Fix].

NOTE

- **About functions of each switch, see to "B. List of software SW for CS Remote Care."**

B. List of software SW for CS Remote Care

NOTE

- **Do not change any bit not described on this table.**

SW No.	Bit	Functions	0	1	Default
SW 01	0	Dial Mode	Pulse	Tone	1
	1	Reservation	—	—	0
	2	Reservation	—	—	0
	3	Reservation	—	—	0
	4	Baud rate	*1	*1	0
	5		*1	*1	0
	6		*1	*1	0
	7		*1	*1	1
SW 02	0	Emergency transmission	Do not call	Call	1
	1	Auto call on date specification	Do not call	Call	1
	2	Reservation	—	—	0
	3	Reservation	—	—	0
	4	Reservation	—	—	0
	5	Auto call on the IC Life	Do not call	Call	1
	6	Auto call on CCD Clamp/Gain Adjustment failure	Do not call	Call	1
	7	Reservation	—	—	0
SW 03	0	Reservation	—	—	0
	1	Auto call on the toner empty	Do not call	Call	1
	2	Reservation	—	—	0
	3	Auto call on the waste toner bottle full	Do not call	Call	1
	4 to 7	Reservation	—	—	0
SW 04	0 to 7	Reservation	—	—	0

SW No.	Bit	Functions	0	1	Default
SW 05	0	Modem redial interval	*2	*2	1
	1		*2	*2	1
	2		*2	*2	0
	3		*2	*2	0
	4 to 7	Reservation	—	—	0
SW 06	0	Modem redial times	*3	*3	0
	1		*3	*3	1
	2		*3	*3	0
	3		*3	*3	1
	4		*3	*3	0
	5		*3	*3	0
	6		*3	*3	0
	7	Reservation	—	—	0
SW 07	0	Redial for response time out	Do not redial	Redial	1
	1 to 7	Reserved	—	—	0
SW 08	0	Retransmission interval on E-Mail delivery error	*4	*4	0
	1		*4	*4	1
	2		*4	*4	1
	3		*4	*4	0
	4 to 7	Reservation	—	—	0
SW 09	0	Retransmission times on E-Mail delivery error	*5	*5	0
	1		*5	*5	1
	2		*5	*5	0
	3		*5	*5	1
	4		*5	*5	0
	5		*5	*5	0
	6		*5	*5	0
	7	Reservation	—	—	0
SW 10	0 to 7	Reservation	—	—	0
SW 11	0	Timer 1 RING reception → CONNECT reception	*6	*6	0
	1		*6	*6	0
	2		*6	*6	0
	3		*6	*6	0
	4		*6	*6	0
	5		*6	*6	1
	6		*6	*6	0
	7		*6	*6	0

SW No.	Bit	Functions	0	1	Default
SW 12	0	Timer 2 Dial request completed → CONNECT reception	*7	*7	0
	1		*7	*7	0
	2		*7	*7	0
	3		*7	*7	0
	4		*7	*7	0
	5		*7	*7	0
	6		*7	*7	1
	7		*7	*7	0
SW 13	0 to 7	Reservation	—	—	0
SW 14	0	Timer 4 Line connection → Start request telegram delivery	*8	*8	0
	1		*8	*8	0
	2		*8	*8	0
	3		*8	*8	0
	4		*8	*8	0
	5		*8	*8	1
	6		*8	*8	0
	7		*8	*8	0
SW 15	0	Timer 5 Wait time for other side's response	*9	*9	0
	1		*9	*9	1
	2		*9	*9	1
	3		*9	*9	1
	4		*9	*9	1
	5		*9	*9	0
	6		*9	*9	0
	7		*9	*9	0
SW 16	0 to 7	Reservation	—	—	0
SW 17	0 to 7	Reservation	—	—	0
SW 18	0	Attention display To set weather to give the alarm display when using the modem but the power for the modem is OFF.	Do not call	Call	1
	1 to 7	Reservation	—	—	0
SW 19 to SW 40	0 to 7	Reservation	—	—	0

*1: Baud rate

Mode	01-7	01-6	01-5	01-4
9600 bps	0	1	1	0
19200 bps	0	1	1	1
“38400 bps”	1	0	0	0

*2: Modem redial interval

Mode	05-3	05-2	05-1	05-0
1 minute	0	0	0	1
2 minutes	0	0	1	0
“3 minutes”	0	0	1	1
4 minutes	0	1	0	0
5 minutes	0	1	0	1
6 minutes	0	1	1	0
7 minutes	0	1	1	1
8 minutes	1	0	0	0
9 minutes	1	0	0	1
10 minutes	1	0	1	0

*3: Modem redial times

Mode	06-6	06-5	06-4	06-3	06-2	06-1	06-0
0 to 9 times	000 0000 to 000 1001						
“10 times”	0	0	0	1	0	1	0
11 to 99 times	000 1011 to 110 0011						

*4: Retransmission interval on E-Mail delivery error

Mode	08-3	08-2	08-1	08-0
0 minute	0	0	0	0
10 minutes	0	0	0	1
20 minutes	0	0	1	0
30 minutes	0	0	1	1
40 minutes	0	1	0	0
50 minutes	0	1	0	1
“60 minutes”	0	1	1	0
70 minutes	0	1	1	1
80 minutes	1	0	0	0
90 minutes	1	0	0	1
100 minutes	1	0	1	0
110 minutes	1	0	1	1
120 minutes	1	1	0	0

*5: Retransmission times on E-Mail delivery error

Mode	09-6	09-5	09-4	09-3	09-2	09-1	09-0
0 to 9 times	000 0000 to 000 1001						
“10 times”	0	0	0	1	0	1	0
11 to 99 times	000 1011 to 110 0011						

*6: Timer 1 (RING reception → CONNECT reception)

Mode	11-7	11-6	11-5	11-4	11-3	11-2	11-1	11-0
0 to 31 sec	0000 0000 to 0001 1111							
“32 sec”	0	0	1	0	0	0	0	0
33 to 255 sec	0010 0001 to 1111 1111							

*7: Timer 2 (Dial request completed → CONNECT reception)

Mode	12-7	12-6	12-5	12-4	12-3	12-2	12-1	12-0
0 to 63 sec	0000 0000 to 0011 1111							
“64 sec”	0	1	0	0	0	0	0	0
65 to 255 sec	0100 0001 to 1111 1111							

*8: Timer 4 (Line connection → Start request telegram delivery)

Mode	14-7	14-6	14-5	14-4	14-3	14-2	14-1	14-0
0 to 31 (x 100 msec)	0000 0000 to 0001 1111							
“32 (x 100 msec)”	0	0	1	0	0	0	0	0
33 to 255 (x 100 msec)	0010 0001 to 1111 1111							

*9: Timer 5 (Wait time for other side’s response)

Mode	15-7	15-6	15-5	15-4	15-3	15-2	15-1	15-0
0 to 29 sec	0000 0000 to 0001 1101							
“30 sec”	0	0	0	1	1	1	1	0
31 to 255 sec	0001 1111 to 1111 1111							

10.7.4 Setup confirmation

- **Follow the steps below to make sure that CS Remote Care has been properly set up.**

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care].
3. Check to make sure that only selected item is displayed.

10.7.5 Calling the Maintenance

- When CE starts maintenance, inputting the ID code of CE (seven digits: numbers which CE can identify. They are controlled by the distributor.) will transmit the information to the Center side and tells that the maintenance has started. When the maintenance is finished, touching [Maintenance Complete] key will transmit the information to the Center and tells that it is finished.

A. When starting the Maintenance

1. Select Service Mode and touch [CS Remote Care].
2. Touch [ID Code], and input ID Code.
3. Touch [ID Coke].

* The Start key blinks while maintenance is being carried out.

B. When finishing the Maintenance

1. Select Service Mode and touch [CS Remote Care].
2. Touch [Maintenance Complete].

10.7.6 Calling the Center from the Administrator

- When the CS Remote Care setup is complete, the administrator can call the CS Remote Care center.

1. Select [Administrator Setting], and touch [System Connection].
2. Touch [Admin. transmission].
3. Press the Start key.
   When the setup is not complete or another transmission is being carried out, the Admin. transmission key will not be displayed, and the transmission is not available.

NOTE

- **For transmitting data of the machine by calling the center on the specified date and time, refer to the manual for CS Remote Care Center.**

10.7.7 Checking the transmission log

- The transmission log list will be output to be checked.

1. Select [Service Mode] → [CS Remote Care], and touch [Detail setting].
2. Touch [Communication Log Print].
3. Load Tray 1 or Bypass tray with A4R paper.
4. Press the Start key to output transmission log.

10.7.8 Detail on settings

A. System Selection

Functions	• To select the system type for remote diagnosis.
Use	• Use to newly build or change the system.
Setting/ Procedure	• Select E-Mail, Modem, or Fax. • Fax is available only when the optional Fax kit is being installed. E-Mail (Not Used) Modem Fax (Not Used)

B. ID Code

Functions	• To register the Service ID.
Use	• Use when registering and changing Service ID.
Setting/ Procedure	• Enter a 7-digit code from the 10-Key Pad. (0000001 to 9999999) <Registration> • Touch ID Code and enter the Service ID. • Touch [ID code] to register the ID. • The [Detail Setting] will appear when the ID has been registered.

C. Detail Setting

(1) Basic Setting

Functions	• Execute the primary setting.
Use	• Use to change the set contents. • Use to register the machine to the CS Remote Care Center.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [CS Remote Care]. *3.* Touching the [Detail Setting] will display the primary setting. Primary Setting • Set the Center ID, Device ID, and the phone No. • When e-mail is selected for system and all setup procedures are completed, E-mail address of the Center is displayed. * When entering the phone No, 10-Keys and keys on the screen have following meanings. [-] Pose : Waits to start transmitting after dialing [W] Wait : Detects the dial tone of the other end [T] Tone dial : Carry out tone dialing [P] Pulse dial : Carry out pulse dialing [*],[#] : To be used as necessary Initial Transmission • Touching the Initial Transmission key will sent the information to the CS Remote Care Center to register the machine. (Only when the Modem or Fax is selected on the system Input.)

(2) Date & Time Setting

Functions	• To set the data and time-of-day
Use	• Use to set or change the date and time-of-day.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [CS Remote Care]. *3.* Touch [Detail Setting] to access Date & Time Setting. *4.* Enter the date (month, day and year), time-of-day, and the time zone from the 10-Key Pad. *5.* Touch [SET] to start the clock.

(3) RAM Clear

Functions	• To clear the following data at the Center ID Code, Primary Setting, Date/Time Input (Time Zone), Software SW Setting and AT Command.
Use	• To be used for setting CS Remote Care. • To be used for reset the every data of the Center to default. **NOTE** • **If RAM Clear is selected during transmission, RAM clear processing will be implemented at the time the transmission is completed regardless of whether it is done properly or not.**
Setting/ Procedure	• The default setting is “Unset.” Set “Unset”

(4) Communication Log Print

Functions	• To print out the Communication Log.
Use	• Use to output and use the Communication Log.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [CS Remote Care]. *3.* Touch [Detail Setting] to access Communication Log Print. *4.* Load Tray 1 or Bypass Tray with A4R or 81/2 x 11 paper. *5.* Press Start key to print out the Communication Log.

(5) Software Switch Setting

Functions	• To change the CS Remote Care settings.
Use	• To change the settings for CS Remote Care as necessary.
Setting/ Procedure	☞ For procedures on settings, see 252.

(6) Response Time Out

Functions	• Not Used. (To be used when connected by E-mail.)
Use	
Setting/ Procedure	

D. AT Command

Functions	• To set the command to be issued at the time of Modem Initialization. • This setting is available only when [Modem] is selected for the system setting.
Use	• To set the command to be issued at the time of Modem Initialization.
Setting/ Procedure	• Enter the command and touch [SET] to register.

E. Server set

Functions	• Not Used.
Use	
Setting/ Procedure	

10.7.9 List of the CS Remote Care error code

NOTE

- **Error codes in the shaded region may occur when transmitting from the machine to the center.**

Error code	Error	Solution
0001	The line is busy (Busy detection)	• Transmit again manually.
0002	Failure of the Modem default setting at transmitting (When the transmission completes with modem initial setting failed)	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main unit.
0003	Timeout of CONNECT at transmitting (No response to ATD)	• Transmit again manually • Check if the power of the modem is ON. • Check the connecting condition between the modem and the main unit.
0004	Timeout of Incoming request response (No response to incoming (starting) request MSG)	• Contact responsible person of KONICA MINOLTA.
0005	Timeout of CONNECT at receiving (No response to ATA)	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main unit.
0006	Shut down of the data modem line (Host) (Carrier OFF is detected)	• No solution, because the line is shut down at the host side.
0007	Shut down of the data modem line (Main unit) (Line is shut down forcibly due to event)	• Contact responsible person of KONICA MINOLTA.
0008	Timeout of start request telegram delivery (Start request telegram is not delivered after line connection)	• Transmit again manually.
0009	Timeout of finish request telegram delivery (Finish request telegram is not delivered (Start of shut down).)	• Transmit again manually.
000A	Receiving rejection (Receiving is made when the main unit is set to reject receiving.)	• Check the setting condition of the host side. • Check the setting condition of the main unit side.
000B	RS232C Driver Over Run (When the modem detects Over Run.)	• If the same error is detected several times, turn the modem power OFF and ON.
000C	If the same error is detected several times, turn the modem power OFF and ON.	• If the same error is detected several times, turn the modem power OFF and ON.
000D	Break Interrupt (BI) Indicator (When the modem detects Break Interrupt (BI) Indicator.)	• If the same error is detected several times, turn the modem power OFF and ON.
000E	Receiving RING Buffer Full (When the Receiving RING Buffer is full.)	• Contact responsible person of KONICA MINOLTA.

Error code	Error	Solution
000F	Transmitting RING Buffer Full (When the Transmitting RING Buffer is full.)	• Contact responsible person of KONICA MINOLTA.
0010	RX FIF0 ERROR (when Read / Write error occurs at RX FIF0)	• Contact responsible person of KONICA MINOLTA.
0011	Baud Rate ERROR (When selected Baud Rate is out of the specification (9600 bps to 38400 bps).)	• Check the Baud rate of the software DipSW.
0012	TX FIF0 Level Error (When the threshold of the selected TX FIF0 is not error value (1, 3, 9, 13).)	• Contact responsible person of KONICA MINOLTA.
0013	RX FIF0 Level Error (When the threshold of the selected RX FIF0 is not error value (0, 4, 8, 14).)	• Contact responsible person of KONICA MINOLTA.
0014	Receiving Data Over Error (When the data whose size exceeds the transmitting RING buffer is requested.)	• Contact responsible person of KONICA MINOLTA.
0015	Status Error (During modem operation is being confirmed)	• Contact responsible person of KONICA MINOLTA.
0016	Status Error (During receiving)	• Contact responsible person of KONICA MINOLTA.
0017	Status Error (During line is being shut down)	• Contact responsible person of KONICA MINOLTA.
0018	Machine ID has already been registered (Request telegram 2 (SET-UP) comes from the main unit that has already registered Machine ID.)	• Set the initial registrations again for all including the host side.
0019	Center ID Error (Center ID of the host is not identical with the one of start request telegram.)	• Check Center ID setting of the main unit side. • Check Center ID setting of the main unit side.
001A	Device ID inconsistency (Device ID of the host is not identical with the one of start request telegram.)	• Check Device ID setting of the main unit side. • Check the setting of the host side.
001B	Device ID Unregistered (Request telegram 2 (Constant data transmitting, Emergency call) comes from the main unit that has not registered Machine ID yet.)	• Check Device ID setting of the main unit side. • Check the setting of the host side.
001C	Grammar Error (Received response telegram is unregulated format.)	• Contact responsible person of KONICA MINOLTA.
001D	Impossible to change (Unchangeable items) (Host requests to change the setting of items which are not allowed to change.)	• Contact responsible person of KONICA MINOLTA.
001E	Impossible to change (During printing) (Setting cannot be changed because the setting change is made during the machine is printing or starts printing.)	• Try again when the machine is not printing.
001F	Impossible to change (Unread items) (The host tries to make writing on the items the current value has not been read.)	• Contact responsible person of KONICA MINOLTA.

Error code	Error	Solution
0020	Timeout of Telegram Delivery (At waiting mode of telegram delivery the machine fails to receive the telegram in a given time.)	• Try communication again.
0021	Telegram Size Over (The machine receives the telegram whose size exceeds the specification.)	• Contact responsible person of KONICA MINOLTA.
0022	Transmitting Phase Response NG (Transmitting phase response MSG is not appropriate.)	• Contact responsible person of KONICA MINOLTA.
0023	Timeout of Transmitting Phase Response MSG (Transmitting phase response MSG is timeout.)	• Contact responsible person of KONICA MINOLTA.
0024	Event Data Acquisition Function Error (Although the transmitting phase response MSG is OK, the function for Data acquisition shows “No event,”.)	• Contact responsible person of KONICA MINOLTA.
0025	Timeout of Driver transmitting check MSG (Transmitting check MSG from the driver task is timeout.)	• Contact responsible person of KONICA MINOLTA.
0026	Detection of Internal Contradiction (Unknown event is detected. Condition value is not correct or so on.)	• Contact responsible person of KONICA MINOLTA.
0027	Transmission / Receiving collision (Receiving is detecting during transmitting processing)	• Try communication again.

10.7.10 Troubleshooting for CS Remote Care

If communication is not done properly during use of the modem, check the condition by following the procedures shown below.

1. Shift the screen in the order of [Service Mode] → [CS Remote Care] → [Detail Setting]. At this time, in the cases of Initial transmitting / Administrator transmitting / Maintenance Start transmitting / Maintenance Finish transmitting, the communication result will be displayed at the top of the screen.

* For the communication result, the following message will be displayed based on its success or failure.

Display of Communication result	Cause	Solution
Communicating	—	—
Communication trouble with the Center	Although the machine tries to communicate with the Center, there is any trouble and the communication completes unsuccessfully.	• See the list of error message and confirm the corresponding point. ☞ 261
Complete successfully	—	—
Modem trouble	Although the machine tries to communicate with the Center, there is any trouble in the modem.	• Check if the Power of modem in ON. • Check if there is any problem in connection between the modem and the main unit.
Busy line	Although the machine tries to communicate with the Center, the line to the Center is busy.	• Communicate with the Center again.
No response	Although the machine tries to communicate with the Center, there is no response from the Center.	• Communicate with the Center again. • Check the communication environment of the Center side.

10.8 System 1

10.8.1 Marketing Area

Functions	• To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area.
Use	• Upon setup.
Setting/ Procedure	<Marketing Area> • Select the applicable marketing area and touch [END] to set the marketing area. JAPAN US Europe Others1 Others2 Others3 Others4 ✻ These are the languages that can be selected on the Utility screen according to different marketing area settings:

Japan	English, Japanese
US	English, French, Spanish, Japanese
Europe	English, French, Italian, German, Spanish, Japanese
Others1	English, French, Spanish, Japanese
Others2	English, Japanese, German, French, Italian, Spanish
Others3	
Others4	

<Fax Target>
1. Touch the [Fax Target].
2. Select the applicable marketing area using [+] and [-] keys, and touch [END].

10.8.2 Tel/Fax Number

Functions	• To enter the TEL/FAX number of the service contact that will appear on the Touch Panel when a malfunction occurs in the machine.
Use	• Upon setup.
Setting/ Procedure	• Enter the Tel/Fax Number (19 digits) from the 10-Key Pad. • Use Interrupt key to enter "-."

10.8.3 Serial Number

Functions	• To register the serial numbers of the machine and options. • The numbers will be printed on the list output.
Use	• Upon setup.
Setting/ Procedure	• Type the serial numbers. 9 digits (0 to 9) Printer, Scanner, ADF, LCT, Sorter/FN, Duplex, Vendor, Fax1

10.8.4 No Sleep

Functions	• To display the option of “OFF” for the Sleep Mode Setting screen available from Administrator Setting.
Use	• To display the option of “OFF” for the Sleep Mode Setting. **NOTE** • **The sleep mode will begin in 48 hours even if it sets it to “OFF.”**
Setting/ Procedure	• The default setting is “Prohibit.” Permit “Prohibit”

10.8.5 Original Size Detection

Functions	• To change the document size detection table.
Use	• Use to change the setting for the document size detection table. Copy Glass : To change the size detection table for the document glass. ADF : To set whether or not to detect 18k/16k while using ADF (only when marketing area is Europe)
Setting/ Procedure	<Copy Glass> • The default setting is “Table1.” “Table1” Table2 **NOTE** • **Table 2 can be set only when Original Size Detecting Sensor/2 is being mounted.** <ADF> • The default setting is “Disable.” Enable “Disable”

10.8.6 Foolscap Size Setting

Functions	• To set the size for Foolscap paper.
Use	• Upon setup. • To change the size for Foolscap paper.
Setting/ Procedure	• Select the size from among the following five. 220 x 330 mm 81/2 x 13 81/4 x 13 81/8 x 131/4 8 x 13

10.8.7 Initialization

A. Data Clear

Functions	• To initialize the setting data.
Use	• To clears the setting data. ☞ For details on items to be cleared, see page 302 “Contents to be cleared by Reset function.” **NOTE** • **When removing or installing the hard disk after registering the data below, be sure to clear the data.** **Referring data: One-Touch Registration, User Authentication/Account Track.**
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Select the key as follows. [System 1] → [Initialization] → [Data clear]. *3.* Press the Start key. *4.* When [OK] is displayed, turn off the Main Power Switch and turn it on again more than 10 seconds after.

B. System Error Clear

Functions	• To reset the trouble data.
Use	• Use to clear the [Jam], [Trouble], [Error] displays, and other improper displays. ☞ For details on items to be cleared, see page 302 “Contents to be cleared by Reset function.”
Setting/Procedure	*1.* Call the Service Mode on the screen. *2.* Select the key as follows. [System 1] → [Initialization] → [System Error Clear]. *3.* Press the Start key. *4.* When [OK] is displayed, turn off the Main Power Switch and turn it on again more than 10 seconds after.

10.8.8 Install Date

Functions	• To register the date the main unit was installed.
Use	• Upon setup.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Select the key as follows. [System 1] → [Install Date]. *3.* Enter the date (Year 4 digit → Month 2 digit → date 2 digit) from the 10-Key Pad. *4.* Touch [Entry] to set the date of installation.

10.9 System 2

10.9.1 HDD

Functions	• Not Used.
Use	
Setting/Procedure	

10.9.2 Image Controller Setting

Functions	• To set the type of the controller. • [Peripheral Mode] appears when [Others] is selected.
Use	• When setting up the controller.
Setting/ Procedure	Image Controller Setting • Select the controller to be used. "Controller 0" : The standard controller is used. Controller 1 : An external controller is used. Controller 2 : An external controller is used. Controller 3 : An external controller is used. Others : An external controller is used. Peripheral Mode • Select the operating mode of the Scanner. Mode 1: Not use Mode 2: Not use Mode 3: Not use **NOTE** **• After changing setting, make sure to turn off the Main Power Switch and turn it on again more than 10 seconds after.**

10.9.3 Option Board Status

Functions	• To set when the Optional Fax Mount Kit, Local Interface Kit is mounted.
Use	• Use when setting up the Optional Fax Mount Kit, Local Interface Kit is mounted.
Setting/ Procedure	• Setting modes are Fax (Main) and local I/F. • The default setting is "Unset." Fax (Main) :Set "Unset" Fax (Sub) :Not Used local I/F :Set "Unset" JPEG :Not Used **NOTE** **• After changing setting, make sure to turn off the Main Power Switch and turn it on again more than 10 seconds after.**

10.9.4 Consumable Life Reminder

Functions	• To select whether or not to give the display of PM parts lifetime PM parts lifetime display: An entire screen warning is given when the service life of a specific unit has been reached, prompting the user to replace the part. • Applicable units: Transfer Belt Unit, Fusing Unit, Imaging Unit (C, M, Y, K)
Use	• Use to select not to give the display of PM parts lifetime.
Setting/ Procedure	• The default setting is "Yes." "Yes" No

10.9.5 Unit Change

Functions	• To select who is to replace a unit. • When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit. When “User” is selected : Copying is inhibited. When “Service” is selected : Life warning.
Use	• Upon setup
Setting/ Procedure	• The following are the default settings: US, Japan, Others 4 Europe, Others1/2/3 Toner Cartridge : “User” Service “User” Service Imaging Unit : User “Service” “User” Service Waste Toner Box : User “Service” “User” Service Punch Dust Box : User “Service” “User” Service

10.9.6 Software Switch Setting

Functions	• Not Used
Use	
Setting/ Procedure	

10.9.7 Scan Caribration

Functions	• To set whether to use the calibration adjustment value set prior to the shipping.
Use	• To be used when CCD unit has bee changed. After replacing the CCD unit, the default value needs to be set since the calibration value set for each unit changes to control the differences in reading performance on each scanner (CCD).
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **When the setting is changed, the function becomes available by turning the Sub Power Switch OFF and ON again.**

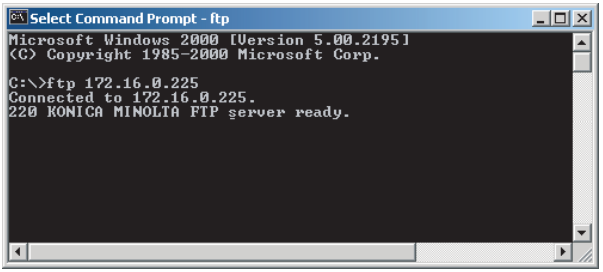
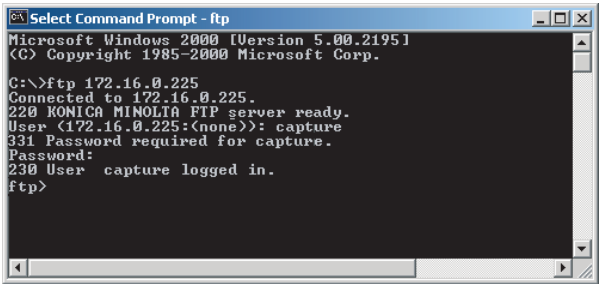
10.9.8 LCT Paper Size Setting

Functions	• To set the paper size for the LCT
Use	• Use to change the paper size for the LCT.
Setting/ Procedure	The default setting depends on the setting made for the applicable marketing area. A4 81/2 x 11

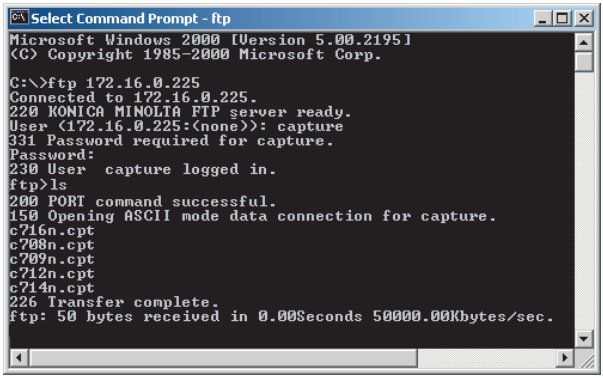
10.9.9 Line Mag Setting

Functions	• To set whether to use the offset value which has been set prior to the shipping.
Use	• To be used after replacing the CCD unit. After replacing the CCD unit, the default value needs to be set since the magnification offset value between the lines set for each unit changes to control the differences in reading performance on each scanner (CCD).
Setting/ Procedure	• The default setting is ON. "ON" OFF **NOTE** • **When the setting is changed, the function becomes valid by turning the Sub Power Switch OFF and ON again.**

10.9.10 Data Capture

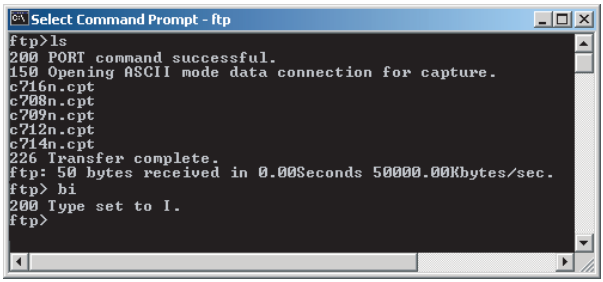
Functions	• When an error occurs, it acquires the print job data in order to analyze the cause of the error.
Use	• When an error occurs, this will be used to analyze the cause of the error according to the print job data.
Setting/ Procedure	**NOTE** • **The following conditions are necessary for this function.** **When selecting [Security Setting] → [Security Details] → [Print Data Capture] in Administrator Setting, [Allow] must be set.** **The hard disk must be mounted to the machine.** **When selecting [Administrator Setting] → [Network Setting] → [FTP Setting], [FTP Server: ON] must be set.** *1.* Select [Service Mode] → [System 2], and touch [Data Capture]. Select [ON]. (While the Data Capture setting is [ON], the print job data from the PC will be stored in the hard disk.) *2.* Check the IP address of the machine. *3.* Connect the PC (Windows) and the machine with Ethernet cable. *4.* Start the DOS command prompt of the PC, and specify the IP address of the machine to start FTP.  4037F3E538DA *5.* Input the user name and the password. User name: capture Password: sysadm  4037F3E539DA

Setting/ Procedure	*6.* Using the “ls” command, display the list of the file available for capture.



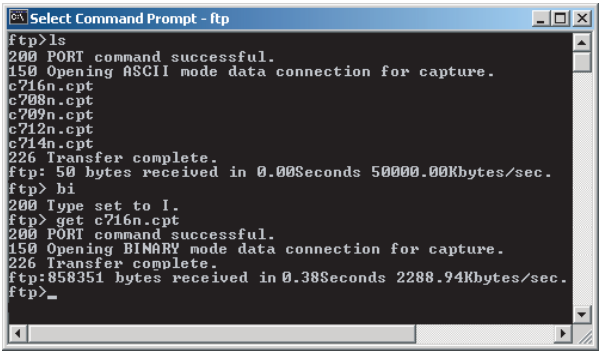
4037F3E540DA

7. Using the “binary” command, set the File transfer mode to the binary transfer.



4037F3E541DA

Setting/ Procedure	*8.* Using the “get” command, transfer the data for capture to PC.



4037F3E542DA

9. Finish the command prompt.

NOTE

- **When the data capture is set to [ON], all print job data will be stored in the hard disk.**
- **After receiving capture data, select [Administrator Setting] → [Security Setting] → [Security Detail], and select [Restrict] for Print Data Capture in order to delete the job data stored in the hard disk.**

10.10 Counter

- The Counter displays the counts of various counters to allow the Technical Representative to check or set as necessary.

10.10.1 Procedure

1. Touch [Counter] to show the Counter menu.
2. Select the specific counter to be displayed.
3. To clear the counts of two or more counters within a group or across different groups at once, touch [Counter Reset], select the specific counters to be cleared, and touch [END]. Two or more counters can be selected.

10.10.2 Life

Functions	• To check the number of hours or times each of the different maintenance parts has been used. • To clear the count of each counter.
Use	• When each of the maintenance parts is replaced.
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • It is not possible to clear the count of the counters for the Fusing Unit, Transfer Belt Unit, and IU, which are provided with a new unit detection function. <1> • Fusing Unit : Number of times a sheet of paper is fed through • Transfer Unit : Number of times a sheet of paper is fed through • 1st. : Number of sheets of paper fed from Tray 1 • 2nd. : Number of sheets of paper fed from Tray 2 • 3rd. : Number of sheets of paper fed from Tray 3 • 4th. : Number of sheets of paper fed from Tray 4 • Manual Tray : Number of sheets of paper fed from the Bypass
	<2> • Cyan IU : Period of time over which the Cyan Developing Unit has been used. • Magenta IU : Period of time over which the Magenta Developing Unit has been used. • Yellow IU : Period of time over which the Yellow Developing Unit has been used. • Black IU : Period of time over which the Black Developing Unit has been used. • LCT Parts : Number of sheets of paper fed from the LCT • ADF Feed : Number of sheets of paper fed through the take-up section of the ADF • ADF Reverse : Number of sheets of paper fed through the turnover unit of the ADF • Sorter/Finisher: Number of sheets of paper fed out of the Sorter/Finisher

10.10.3 Jam

Functions	• To check the number of misfeeds that have occurred at different locations in the machine. • To clear the count of each counter.
Use	• To check the number of paper misfeeds that have occurred
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.4 Service Call Counter

Functions	• To check the number of malfunctions that have occurred at different locations in the machine • To clear the count of each counter.
Use	• To check the number of malfunctions that have occurred
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.5 Warning

Functions	• To check the number of warning conditions detected according to the warming type • To clear the count of each counter.
Use	• To check the number of warning conditions that have been detected
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • When a warning condition occurs, an oil mark appears at the lower left corner of the Basic screen. • Touching the oil mark will display the warning code screen.

10.10.6 Maintenance

Functions	• To set a count value for maintenance of any given part.
Use	• When any given part is replaced.
Setting/ Procedure	Maint.-Set • Enter the maintenance counter value from the 10-Key Pad. Maint.-Count • Counts up when a sheet of paper is fed through the machine. • Pressing the Clear key will clear the count. • If the count is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.7 Service Total

Functions	• To display the count value for the service total counter.
Use	• Use to check the total No. of printed pages including the ones printed by the Service Mode.
Setting/ Procedure	Service Total : No. of pages printed by User mode and Service Mode. Service Total (Duplex) : No. of pages printed by User mode and Service Mode in Duplex.

10.10.8 Counter of Each Mode

Functions	• To display the printed pages in the following specified modes; Copy, Printer, Scanner, and Fax. It also displays the count value of using the specified mode.
Use	• Use to check the printed pages in the following specified modes; Copy, Printer, Scanner, and Fax, as well as No. of times each mode was used, in order to know the using condition.

10.10.9 Service Call History (Data)

Functions	• To display the trouble history in chronological order.
Use	• Use to check the trouble history in chronological order.

10.10.10 ADF Paper Pages

Functions	• To display the No. of pages fed to the Automatic Document Feeder.
Use	• Use to check the No. of pages fed to the Automatic Document Feeder.

10.10.11 Paper Jam History

Functions	• To display the jam history in chronological order.
Use	• Use to check the jam history in chronological order. **NOTE** **• [Code] displayed on the screen of JAM history indicates JAM code. For details of JAM code, see "Trouble shooting" on page 313.**

10.10.12 Fax Connection Error

Functions	• To display the No. of Fax transmission errors occurred.
Use	• Use to check the No. of Fax transmission errors occurred.

10.11 List Output

10.11.1 Machine Management List

Functions	• To produce an output of a list of setting values, adjustment values, Total Counter values, and others.
Use	• At the end of setup or when a malfunction occurs.
Setting/ Procedure	• Load the A4R plain paper to a paper source. • Press the Start key, which will let the machine produce the list. • The time-of-day and date will also be printed.

10.11.2 Adjustment List

Functions	• To output the adjustment list for machine adjustment, process adjustment, etc. in Service Mode.
Use	• At the end of setup or when a malfunction occurs.
Setting/ Procedure	• Load the A4R plain paper to a paper source. • Press the Start key, which will let the machine produce the list. • The time-of-day and date will also be printed.

10.11.3 Parameter List

☞ For details, see FK-502 Service Manual.

10.11.4 Service Parameter

☞ For details, see FK-502 Service Manual.

10.11.5 Protocol Trace

☞ For details, see FK-502 Service Manual.

10.11.6 Fax Setting List

☞ For details, see FK-502 Service Manual.

10.12 State Confirmation

10.12.1 Sensor Check

Functions	• To display the states of the input ports of sensors and switches when the machine remains stationary.
Use	• Used for troubleshooting when a malfunction or a misfeed occurs.
Setting/ Procedure	• The operation of each of the switches and sensors can be checked on a real-time basis. • It can be checked as long as the 5-V power line remains intact even when a door is open.

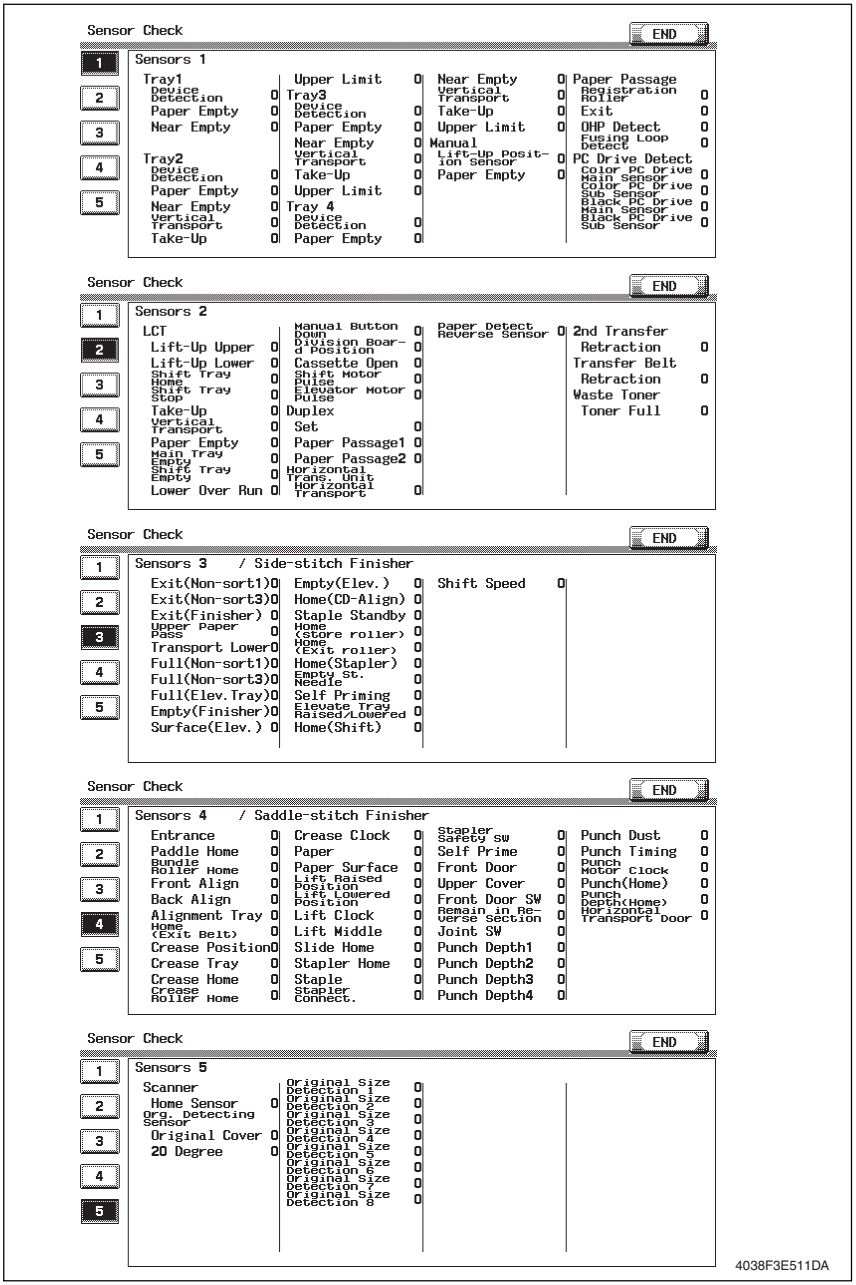
A. Electrical Components Check Procedure Through Input Data Check

- When a paper misfeed occurs in the paper feed section of the machine, the Tray 2 Paper Take-Up Sensor is considered to be responsible for it.

1. Remove the sheet of paper misfed.
2. From the Sensor Check List that follows, check the panel display of the Tray 2 Paper Take-Up Sensor. For the Tray 2 Paper Take-Up Sensor, you check the data of “Take-Up” of “Tray 2.”
3. Call the Service mode to the screen.
4. Select [State Confirmation] → [Sensor Check] and then select the screen that contains “Take-Up” under “Tray 2.” For “Take-Up” under “Tray 2,” select “1” on the left-hand side of the screen.
5. Check that the data for “Take-Up” under “Tray 2” is “0” (sensor blocked).
6. Move the actuator to unblock the Tray 2 Paper Take-Up Sensor.
7. Check that the data for “Take-Up” under “Tray 2” changes from “0” to “1” on the screen.
8. If the input data is “0,” change the sensor.

B. Sensor Check Screens

- These are only typical screens which may be different from what are shown on each individual machine.



4038F3E511DA

C. Sensor Check List

(1) Sensors 1 (Main Unit, PC-103, PC-203)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC12	Tray 1	Device Detection	Tray 1 Set Sensor	In position	Out of position
PC10		Paper Empty	Tray 1 Paper Empty Sensor	Paper not present	Paper present
PC11		Near Empty	Tray 1 Paper Near-Empty Sensor	Blocked	Unblocked
PC2-PC	Tray 2	Device Detection	Tray 2 Set Sensor	In position	Out of position
PC6-PC		Paper Empty	Tray 2 Paper Empty Sensor	Paper not present	Paper present
PC1-PC		Near Empty	Tray 2 Paper Near-Empty Sensor	Blocked	Unblocked
PC8-PC		Vertical Transport	Tray 2 Vertical Transport Sensor	Paper present	Paper not present
PC9-PC		Take-Up	Tray 2 Paper Take-Up Sensor	Paper present	Paper not present
PC7-PC		Upper Limit	Tray 2 Lift-Up Sensor	At raised position	Not at raised position
PC112-PC	Tray 3	Device Detection	Tray 3 Set Sensor	In position	Out of position
PC115-PC		Paper Empty	Tray 3 Paper Empty Sensor	Paper not present	Paper present
PC113-PC		Near Empty	Tray 3 Paper Near-Empty Sensor	Blocked	Unblocked
PC117-PC		Vertical Transport	Tray 3 Vertical Transport Sensor	Paper present	Paper not present
PC116-PC		Take-Up	Tray 3 Paper Take-Up Sensor	Paper present	Paper not present
PC114-PC		Upper Limit	Tray 3 Lift-Up Upper Limit Sensor	At raised position	Not at raised position
PC121-PC	Tray 4	Device Detection	Tray 4 Set Sensor	In position	Out of position
PC124-PC		Paper Empty	Tray 4 Paper Empty Sensor	Paper not present	Paper present
PC122-PC		Near Empty	Tray 4 Paper Near-Empty Sensor	Blocked	Unblocked
PC126-PC		Vertical Transport	Tray 4 Vertical Transport Sensor	Paper present	Paper not present
PC125-PC		Take-Up	Tray 4 Paper Take-Up Sensor	Paper present	Paper not present
PC123-PC		Upper Limit	Tray 4 Lift-Up Sensor	At raised position	Not at raised position
PC14	Man-ual	Lift-Up Position Sensor	Bypass Lift-Up Sensor	At raised position	Not at raised position
PC13		Paper Empty	Bypass Paper Empty Sensor	Paper not present	Paper present

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC1	Paper Pas-sage	Registration Roller	Registration Roller Sensor	Paper present	Paper not present
PC2		Exit	Exit Sensor	Paper present	Paper not present
PC4		OHP Detect	OHP Sensor	OHP	Not OHP
PC3		Fusing Loop Detect	Fusing Paper Loop Sensor	Loop present	Loop not present
PC17	PC Drive Detec t	Color PC Drive Main Sensor	Color PC Drum Main Sensor	Blocked	Unblocked
PC18		Color PC Drive Sub Sensor	Color PC Drum Sub Sensor	Blocked	Unblocked
PC15		Black PC Drive Main Sensor	K PC Drum Main Sensor	Blocked	Unblocked
PC16		Black PC Drive Sub Sensor	K PC Drum Sub Sensor	Blocked	Unblocked

D. Sensors 2 (Main Unit, PC-403)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC4-LCT	LCT	Lift-Up Upper	Lift-Up Upper Sensor	At raised position	Not at raised position
PC13-LCT		Lift-Up Lower	Lift-Up Lower Sensor	At lower limit	Not at lower limit
PC12-LCT		Shift Tray Home	Shift Tray Home Sensor	At home	Out of home
PC11-LCT		Shift Tray Stop	Shift Tray Stop Sensor	At stop position	Not at stop position
PC1-LCT		Take-Up	Paper Take-up Sensor	Paper present	Paper not present
PC2-LCT		Vertical Transport	Vertical Transport Sensor	Paper present	Paper not present
PC3-LCT		Paper Empty	Paper Empty Board	Paper present	Paper not present
PWB-E LCT		Main Tray Empty	Main Tray Empty Sensor Board	Paper present	Paper not present
PC9-LCT		Shift Tray Empty	Shift Tray Empty Sensor	Paper present	Paper not present
PC7-LCT		Lower Over Run	Lower Over Run Sensor	Malfunction	Operational
NU1-LCT		Manual Button Down	Manual Button Down Board	ON	OFF
PC14-LCT		Division Board Position	Division Board Motor	At home	Out of home
PC6-LCT		Cassette Open	Cassette Open Sensor	In position	Out of position
PC8-LCT		Shift Motor Pulse	Shift Motor Pulse Sensor	Blocked	Unblocked
PC10-LCT		Elevator Motor Pulse	Elevator Motor Pulse Sensor	Blocked	Unblocked
PCl DU	Duplex	Set	Duplex Unit Door Set Sensor	Close	Open
PI1 DU		Paper Passage1	Duplex Unit Transport Sensor 1	Paper present	Paper not present
PC2 DU		Paper Passage2	Duplex Unit Transport Sensor 2	Paper present	Paper not present
PC1-HO	Horizontal Trans. Unit	Horizontal Transport	Paper Sensor	Paper not present	Paper present
PC6-HO		Paper Detect Reverse Sensor	Turnover Empty Sensor	Paper present	Paper not present
PC7	2nd Transfer	Retraction	2nd Image Transfer Pressure Position Sensor	Not Retracted	Retracted
PC6	Transfer Belt	Retraction	1st Image Transfer Pressure/ Retraction Position Sensor	Not Retracted	Retracted
PC8	Waste Toner	Toner Full	Waste Toner Full Sensor	Blocked	Unblocked

E. Sensors 3 (FS-501, JS-601)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PC1-FN	Multi Staple Finisher	Exit (Non-sort1)	1st Tray Exit Sensor	Paper present	Paper not present
PC19-FN		Exit (Non-sort3)	Job Tray Exit Sensor	Paper present	Paper not present
PC3-FN		Exit (Finisher)	Storage Sensor	Paper present	Paper not present
PC4-FN		Upper Paper Pass	Upper Entrance Sensor	Paper present	Paper not present
PC2-FN		Transport Lower	Lower Entrance Sensor	Paper present	Paper not present
PC6-FN		Full (Non-sort1)	1st Tray Full Sensor	Blocked	Unblocked
PC20-FN		Full (Non-sort3)	Job Tray Full Sensor	Paper present	Paper not present
PC7-FN		Full (Elev. Tray)	Elevator Tray Full Sensor	Blocked	Unblocked
PC5-FN		Empty (Finisher)	Finisher Tray Paper Sensor	Paper present	Paper not present
PWB-D FN		Surface (Elev.)	Elevator Tray Upper Limit Sensor	Paper present	Paper not present
PC8-FN		Empty (Elev.)	Elevator Tray Paper Sensor	Blocked	Unblocked
PC9-FN		Home (CD-Align)	CD Aligning Home Position Sensor	Blocked	Unblocked
PC14-FN		Staple Standby	Staple Home Position Sensor	Blocked	Unblocked
PC12-FN		Home (Store roller)	Storage Roller Home Position Sensor	Blocked	Unblocked
PC13-FN		Home (Exit roller)	Exit Roller Home Position Sensor	Blocked	Unblocked
-		Staple Home	Staple Home 1	Unblocked	Blocked
-		Staple Empty	Staple Empty 1	Unblocked	Blocked
-		Self Priming	Staple Self Priming 1	Unblocked	Blocked
S2-FN S3-FN		Elevator Tray Upper Limit	Elevator Tray Upper Limit Switch Elevator Tray Upper Limit Switch	ON	OFF
PC10-FN		Shift Home	Shift Home Position Sensor	Unblocked	Blocked
PC11-FN		Shift Motor Pulse	Shift Motor Pulse Sensor	Unblocked	Blocked

F. Sensors 4 (FS-603, PK-501)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PI1-FN	Saddle Stitch Finisher	Entrance	Entrance Sensor	Paper present	Paper not present
PI2-FN		Paddle Home	Paddle Home Position Sensor	HP	
PI3-FN		Bundle Roller Home	Swing Guide Home Position Sensor	HP	
PI4-FN		Front Align	Front Aligning Plate Home Position Sensor	HP	
PI5-FN		Back Align	Rear Aligning Plate Home Position Sensor	HP	
PI6-FN		Alignment Tray	Finisher Tray Sensor	Paper present	Paper not present
PI7-FN		Home (Exit Belt)	Exit Belt Home Position Sensor	HP	
PI10-FN		Crease Position	Folding Position Sensor	Paper present	Paper not present
PI13-FN		Crease Tray	Saddle Tray Sensor	Paper present	Paper not present
PI11-FN		Crease Home	Folding Home Position Sensor	HP	
PI12-FN		Crease Roller Home	Folding Roller Home Position Sensor	HP	
PI14-FN		Crease Clock	Staple/Folding Motor Clock Sensor		
PI8-FN		Paper	Exit Tray Sensor	Paper present	Paper not present
PI9-FN		Paper Surface	Exit Tray Home Position Sensor	Paper surface detected	
PI15-FN		Lift Raised Position	Shift Upper Limit Sensor	Upper limit	
PI16-FN		Lift Lowered Position	Shift Lower Limit Sensor	Lower limit	
PI17-FN		Lift Clock	Shift Motor Clock Sensor		
—		Lift Middle	—	Paper full	
PI18-FN		Slide Home	Slide Home Position Sensor		HP
PI19-FN		Stapler Home	Staple Drive Home Position Sensor	HP	
PI20-FN		Staple	Staple Detecting Sensor	Staples loaded	No staple loaded
—		Stapler Connect.	—		Stapler connection detected
MS3-FN MS4-FN		Stapler Safety SW	Staple Safety Switch (Rear) Staple Safety Switch (Front)	Open	
PI21-FN		Self Prime	Self-Priming Sensor		READY
PI22-FN		Front Door	Front Door Open Sensor		Open
PI23-FN		Upper Cover	Upper Cover Open Sensor		Open

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
MS1-FN	Saddle Stitch Finisher	Front Door SW	Front Door Open Sensor		Open
—		Remain in Reverse Section	—		Paper horiz. side
MS2-FN		Joint SW	Joint Open Sensor		Open
—	Punch Unit	Punch Depth1	—		
—		Punch Depth2	—		
—		Punch Depth3	—		
—		Punch Depth4	—		
—		Punch Dust	—	Punch trash full	
—		Punch Timing	—		
PI3P-PK		Punch Motor Clock	Punch Motor Clock Sensor	Blocked	
PI1P-PK		Punch (Home)	Punch Home Position Sensor	HP	
PI2P-PK		Punch Depth Home	Side Registration Home Sensor	HP	
PC6-HO		Horizontal Transport Door	Horizontal Unit Door Sensor	Blocked	Unblocked

G. Sensors 5 (Main Unit)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PC201	Scanner	Home Sensor	Scanner Home Sensor	At home	Out of home
S201	Org. Detecting Sensor	Original Cover	Size Reset Switch	Lowered	Raised
PC202		20 Degree	Original Cover Angle Sensor	Less than 20°	20° or more
PC203		Original Size Detection 1	Original Size Detecting Sensor FD1	Original loaded, not mounted	Original not loaded
PC204		Original Size Detection 2	Original Size Detecting Sensor FD2	Original loaded,not mounted	Original not loaded
—		Original Size Detection 3	Not Used	—	—
—		Original Size Detection 4	Not Used	—	—
—		Original Size Detection 5	Not Used	—	—
—		Original Size Detection 6	Not Used	—	—
—		Original Size Detection 7	Not Used	—	—
—		Original Size Detection 8	Not Used	—	—

10.12.2 Table Number

Functions	• To display the Vg/Vdc output values calculated for the image density of the test pattern (amount of toner sticking) produced on the Transfer Belt during an AIDC detection sequence. • Reference values: C, M, Y K Vdc: around 390 V, Vg: around 550 V
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• If the value is high, correct so that the image density becomes low. • If the value is low, correct so that the image density becomes high.

10.12.3 Level History1

Functions	• To display TCR (T/C ratio), IDC/Regist Sensor output values, and fusing temperature.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• TCR-C/-M/-Y/-K: Shows the T/C output reading taken last. • IDC1/IDC2 : Shows the latest IDC data. • Temp-Heat : Shows the latest Heating Roller temperature data. • Temp-Press. : Shows the latest Fusing Pressure Roller temperature data. "Reading taken last" means • Density of toner of the latest image • When a test print is produced by pressing the Start key while Level History 1 is being displayed.

10.12.4 Level History2

Functions	• IDC Sensor (Transfer Belt bare surface level) as adjusted through the image stabilization sequence and ATVC value.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• IDC Sensor: Shows the intensity adjustment value (0 to 255) of the IDC Sensor. • ATVC (C, M, Y, K): Shows the first image transfer ATVC adjustment value (-500 V to 3000 V). • ATVC (2nd) : Shows the second image transfer ATVC adjustment value (1000 V to 4800 V).

10.12.5 Temp. & Humidity

Functions	• To display the temperature and humidity of a specific location (AIDC Sensor portion) inside the machine and fusing temperature.
Use	• Used as reference information when a malfunction occurs.
Setting/ Procedure	• Temp-Inside : 0 to 100 °C in 1 °C increments • Temp-Heater : 0 to 255 °C in 1 °C increments • Temp-press. : 0 to 255 °C in 1 °C increments • Humidity : 0 to 100 % in 1 % increments • Absolute Humidity : 0 to 100 in 1 increments

10.12.6 CCD Check

Functions	• To display the D/A value of CCD clamp/gain for R, G, and B.
Use	• Used for troubleshooting for the CCD Sensor.
Setting/ Procedure	• Use the following guidelines on the correct range of values. CLAMP: The difference between the max. and min. output values should be within ±100. GAIN : The difference from the CLAMP values (R, B) should be within (90 for R and B. The difference from the CLAMP value (G) should be within ±50 for G. The difference between each pair of RO and RE, GO and GE, and BO and BE should be within 30.

10.12.7 Memory/HDD Adj.

A. Memory Check

Functions	• To check correspondence of data written to and that read from memory through write/read check. Rough Check • A check is made to see if the image data reading and writing are correctly made in a very limited area. • The progress of the check sequence is displayed in percentage. Detail Check • A check is made to see if the image data reading and writing are correctly made at the addresses and buses in all areas. • The progress of the check sequence is displayed in percentage.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Memory Check]. *3.* Select the desired type of check, either Rough Check or Detail Check. *4.* Press the Start key to start the check procedure. *5.* When the check procedure is completed, the results are shown on the screen. If the check results are NG, check the memory for connection or replace the memory with a new one. ✻ Press the Stop key to interrupt the check sequence. (Only Rough Check)

B. Compress / Decompression Check

Functions	• To check whether compression and decompression are carried out properly.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Compress / Decompression Check]. *3.* Pressing the Start key will automatically start to complete a compression/decompression check sequence. *4.* The check result will be displayed,

C. Memory Bus Check

Functions	• To check to see if image data is correctly transferred from scanner to memory, and from memory to printer.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Memory Bus Check]. *3.* Select either [Scanner → Memory], [Memory → PRT], or both. *4.* Pressing the Start key will start the memory bus check and be terminated automatically. *5.* The check result will be displayed, [OK] or [NG].

D. Work Memory In/Out Check

Functions	• To check to see if input and output of image data of work memory are correctly performed.
Use	• If the print image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Work Memory In/Out Check]. *3.* Select either [Input Check], [Output Check], or both. *4.* Pressing the Start key will start the work memory input/output operation check sequence and be terminated automatically. *5.* The check result will be displayed, [OK] or [NG].

E. HDD R/W Check

Functions	• To check to see if the hard disk is connected properly, and if read/write operation of the hard disk is correctly performed.
Use	• When the hard disk is mounted.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [HDD R/W Check]. *3.* Pressing the Start key will start the hard disk R/W check sequence and be terminated automatically. *4.* The check result will be displayed, [OK] or [NG].

F. HDD Format

Functions	• To format the hard disk • The function proceeds in the order of Physical Format to Logical Format. • If the hard disk is yet to be formatted, the malfunction code “C-D010” will appear. Ignore this code and continue with the formatting procedure.
Use	• When the hard disk is mounted. • When the hard disk is to be initialized. (Physical Format to Logical Format)
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [HDD Format]. **(1) Physical Format** *1.* Touch [Physical Format]. *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn off the Main Power Switch and turn it on again more than 10 seconds after. **(2) Logical Format (Only when initial is set up)** *1.* Touch [Logical Format]. *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn off the Main Power Switch and turn it on again more than 10 seconds after. ✻ Formatting the hard disk will erase all data contained in it.

10.12.8 Memory/HDD State

Functions	• To display the condition and amount of the memory and Hard disk.
Use	• Use to check the condition and amount of the memory and Hard disk.
Setting/ Procedure	• When an add-on memory is mounted, the machine automatically recognizes it and displays its capacity.

10.12.9 Color Regist

Functions	• To check each of C, M, Y, and K for color shift amount. • The data is updated after a color shift correction has been made or color shift adjustment has been completed.
Use	• Use for check when color shift is evident. • Use for adjustment of PH skew.
Setting/ Procedure	• For each of C, M, Y, and K, the color shift amount (in X and Y directions) at two locations (one at the front and the other in the rear) and the difference in color shift amount between the front and rear (X and Y directions) are displayed. • Display unit: dots • The shift amount is displayed with reference to K for C, M, and Y, and that for K is displayed with reference to an ideal position.

10.12.10 IU Lot No.

Functions	• To display the 10-digit lot number for each of C, M, Y, and K IUs. • The lot number data is stored in EEPROM of each IU.
Use	• Use for checking the IU Lot No.
Setting/ Procedure	• The IU lot number is displayed even with the Front Door opened; however, the display is blank, since the machine is unable to read the lot number when the Main Power Switch is turned ON with the Front Door open. Nonetheless, the lot number will be displayed when the Front Door is closed. (The engine obtains the IU lot number information when the Front Door is closed.)

10.12.11 Adjustment Data List

Functions	• To display the adjustment and setting value set in the main unit.
Use	• Use to check the adjustment and setting value set in the main unit.

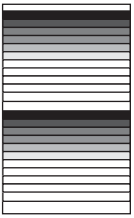
10.13 Test Mode

- To check the image on the printer side by letting the machine produce various types of test pattern. It also tests the printing operation in running mode, as well as the Fax transmission.
- The machine searches through the paper sources in the order of Tray 2, Tray 3, Tray 4, and Tray 1 for paper of the maximum size for printing.

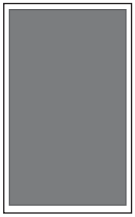
10.13.1 Procedure for Test Pattern Output

1. Touch [Test Mode] to display the Test Mode menu.
2. Touch the desired test pattern key.
3. Set up the desired functions and press the Start key.

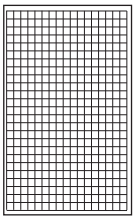
10.13.2 Gradation Pattern

Functions	• To produce a gradation pattern.
Use	• Used for checking gradation reproducibility.
Pattern	 4036fs3042c0 SINGLE HYPER Gradation Cyan
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER”. • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), CMYK, 8Color, 4Color, Black (1PC) • Black (4PC): Uses four colors. • Black (1PC): Uses one color of black.

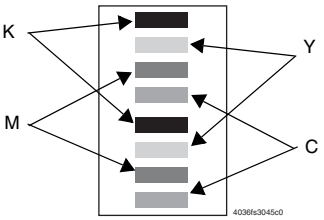
10.13.3 Halftone Pattern

Functions	• To produce a solid halftone pattern.
Use	• Used for checking uneven density and pitch noise.
Pattern	 4036fs3043c0 SINGLE HYPER Gradation Cyan Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC), MIX • Type the density level (0 to “255”).

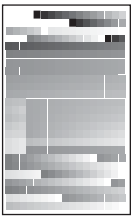
10.13.4 Lattice Pattern

Functions	• To produce a lattice pattern.
Use	• Used for checking fine line reproducibility and uneven density. • A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.
Pattern	 4036fs3044c0 SINGLE FEET Cyan CD Width: 5 FD Width: 5 Density: 255 Normal
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select “FEET” or HYPER. • Select Gradation or Resolution. (Only select HYPER) • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC) • Enter CD width and FD width (0 to 191 dots). • Type the density level (0 to “255”). • Select “Normal” or Reverse.

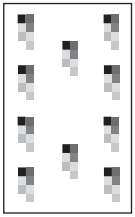
10.13.5 Solid Pattern

Functions	• To produce each of the C, M, Y, and K solid patterns.
Use	• Used for checking reproducibility of image density.
Pattern	 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Type the density level (0 to “255”).

10.13.6 Color Sample

Functions	• To produce a color sample.
Use	• Used for checking reproducibility of each of the different colors.
Pattern	 SINGLE HYPER Gradation
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Produce 12-gradation-level patches of C, M, Y, K, R, G, and B, and a patch of each of the 12 reference colors in the hue circle with lightness and saturation corrected.

10.13.7 8 Color Solid Pattern

Functions	• To produce an 8-color solid pattern.
Use	• Used for checking color reproducibility and uneven density of each color.
Pattern	 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Type the density level (0 to “255”).

10.13.8 Running Mode

Functions	• To test the printing operation in Running Mode.
Use	• Use to check the printing operation in Running Mode from each paper source.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Test Mode] → [Running Mode]. *3.* Select the paper size (Tray 1, Bypass only). *4.* Select the paper type. *5.* Press the Start key to start the Running Mode. *6.* Pressing the Stop key will stop operation.

10.13.9 Fax Test

☞ For details, see FK-502 Service Manual.

10.14 ADF

☞ For details, see DF-601 Service Manual.

10.15 FAX

☞ For details, see FK-502 Service Manual.

10.16 Finisher

☞ For details on adjustment, see the Service Manual for Option FS-603.

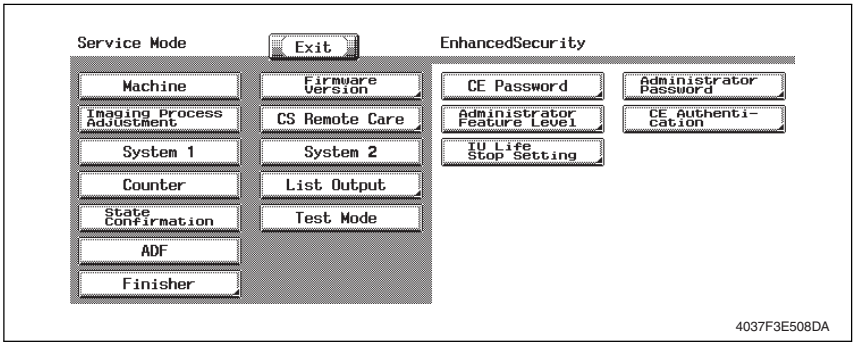
Functions	• To adjust the positions of center staple and folding for the Finisher.
Use	• Use when the center staple and folding positions deviate from the correct ones in the copies made using the Fold & Staple function. • Upon setup of the Finisher (FS-603).
Adjustment Specification	• Center staple position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments). • Fold position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).

11. Enhanced Security

11.1 Enhanced Security Function Setting Procedure

11.1.1 Procedure

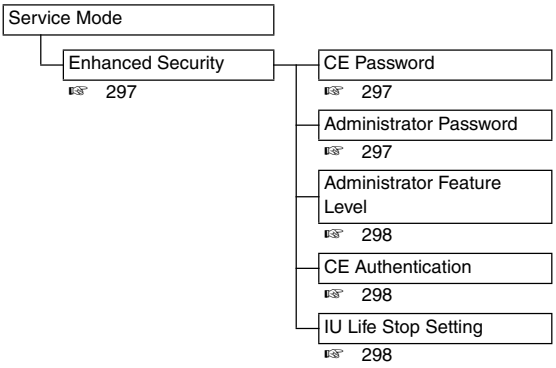
1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 0→ Clear
3. Enhanced Security menu will appear.



11.1.2 Exiting

- Touch the [Exit].

11.2 Enhanced Security Function Tree



11.3 Settings in the Enhanced Security

11.3.1 CE Password

Functions	• To set and change the CE Password.
Use	• Use to change the CE Password.
Setting/ Procedure	• Enter the CE Password (8 digits) on the on-screen keyboard. • The initial setting is “92729272.” Current Password : Enter the currently using CE Password. New Password : Enter the new CE Password. Re-Input Password: Enter the new CE Password again. **NOTE** • **When the following setting leads to the Password Rules [ON], the password with the same letters as well as the password which is same as the previous one cannot be changed.** **[Administrator Setting] → [Security Setting]** • **NEVER forget the CE password. When forgetting the CE password, call responsible person of KONICA MINOLTA.**

11.3.2 Administrator Password

Functions	• To set and change the Administrator Password.
Use	• Use to change the Administrator Password.
Setting/ Procedure	• Enter the Administrator Password (8 digits) on the on-screen keyboard. • The initial setting is “12345678.” New Password : Enter the new Administrator Password. Re-Input Password: Enter the new Administrator Password again. **NOTE** • **When the following setting leads to the Password Rules [ON], the password with the same letters, the password which is same as the previous one and the password of less than eight digits cannot be changed.** **[Administrator Setting] → [Security Setting]**

11.3.3 Administrator Feature Level

<table>
<tr><td>Functions</td><td>• To set which Modes to be allowed for the Administrator to use in Service Mode.</td></tr>
<tr><td>Use</td><td>• Use when allowing the Administrator to use some Modes in Service Mode.
• The Modes allowed for the Administrator to use in each setting are as follows.
<table>
<tr><th colspan="3">Administrator Setting Function</th><th>Level 1</th><th>Level 2</th></tr>
<tr><td rowspan="9">[System Setting] → [Expert Setting]</td><td>Printer Adjustment</td><td>Erase Leading Edge</td><td>—</td><td>❍</td></tr>
<tr><td rowspan="4">Scanner Adjustment</td><td>Leading Edge Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td>Centering</td><td>—</td><td>❍</td></tr>
<tr><td>Horizontal Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td>Vertical Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td rowspan="4">ADF Adjustment</td><td>Centering</td><td>—</td><td>❍</td></tr>
<tr><td>Original Stop Position</td><td>—</td><td>❍</td></tr>
<tr><td>Centering Auto Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td>Auto Adj. of Stop Position</td><td>—</td><td>❍</td></tr>
<tr><td rowspan="2">[Standard Size Setting]</td><td colspan="2">Original Glass Original Size Detect</td><td>—</td><td>❍</td></tr>
<tr><td colspan="2">Foolscap Size Setting</td><td>—</td><td>❍</td></tr>
</table>
</td></tr>
<tr><td>Setting/ Procedure</td><td>• The default setting is Prohibit.
Level1 Level2 “Prohibit”</td></tr>
</table>

11.3.4 CE Authentication

Functions	• To determine whether or not to authenticate CE Password as entering Service Mode.
Use	• Use when authenticating CE Password as entering Service Mode.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

11.3.5 IU Life Stop Setting

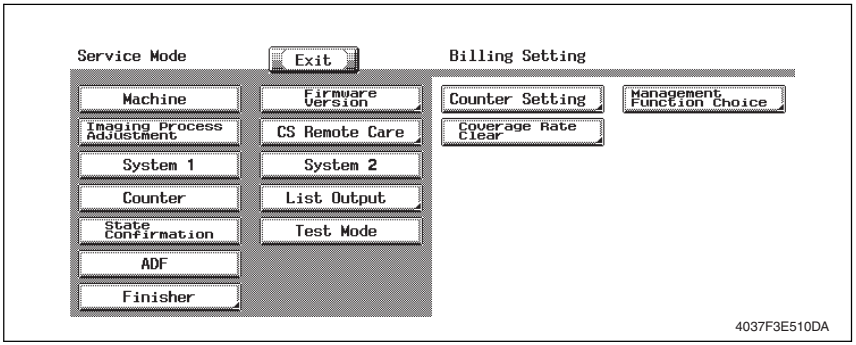
Functions	• To select whether or not to stop a print cycle when the IU reaches its service life
Use	• Use to select not to stop the print cycle when the IU reaches its service life.
Setting/ Procedure	The default setting is Stop. “Stop” No Stop

12. Billing Setting

12.1 Billing Setting Function Setting Procedure

12.1.1 Procedure

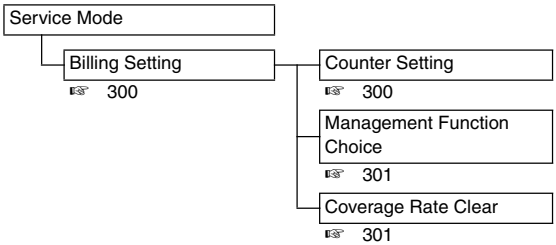
1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 9
3. Billing Setting menu will appear.



12.1.2 Exiting

- Touch the [Exit].

12.2 Billing Setting Function Tree



12.3 Settings in the Billing Setting

12.3.1 Counter Setting

Functions	• To set the counting method for the Total Counter and Size Counter. • To set the size regarded as the Large size (2 counts.)
Use	• Use to change the counting method for the counters.
Setting/ Procedure	Total Counter Mode Mode 1: 1 Count per 1 copy cycle (Default: US, Others 4, Japan) Mode 2: Large Size is double counts. (Default: Europe, Others 1, Others 2, Others 3)

Large Size Counter Mode

- A3/11 x 17 : When it exceeds 279 mm in the main scan direction and 420 mm in the sub scan direction (exceeds 399 mm at FAX scan), it is regarded as the Large Size.
- A3/B4/11 x 17/81/2 x 14 : When it exceeds 215 mm in the main scan direction and 355 mm in the sub scan direction (exceeds 337 mm at FAX scan), it is regarded as the Large Size.
- A3/11 x 17/B4/81/2 x 14/Foolscap : When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction (exceeds 313 mm at FAX scan), it is regarded as the Large Size (However the size in the main scan direction changes according to the Foolscap Size Setting.)

- Not counted (Default: US, Others 4, Japan)
- A3 and 11 x 17
- A3, B4, 11 x 17, and 81/2 x 14 (Default: Europe, Others 1, Others 2, Others 3)
- A3, B4, Foolscap, 11 x 17, 11 x 14, and 81/2 x 14

✻ Count-up Table

Copying	1-Sided				2-Sided			
Size	Sizes other than Large sizes		Large sizes		Sizes other than Large sizes		Large sizes	
Mode / Counter Type	Mode		Mode		Mode		Mode	
	1	2	1	2	1	2	1	2
Total	1	1	1	2	2	2	2	4
Size	0	0	1	1	0	0	2	2
2-sided Total	0	0	0	0	1	1	1	1

0: No count; 1: 1 count; 2: 2 counts; 3: 3 counts; 4: 4 counts

12.3.2 Management Function Choice

Functions	• To set whether or not the Key Counter and Management Device are installed.
Use	• Use to change the counting method for the administrative units.
Setting/ Procedure	Key Counter • Default setting: Unset Set "Unset" • Select [Color Mode] and [Message] when the Key Counter is mounted. ✻ Color Mode • When [Mode 1] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting]. Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle • When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting] and Large size is selected on [Large Size Counter Mode]. Mode 1: 2 counts per 1 copy cycle Mode 2: 4 counts per 1 copy cycle Mode 3: 6 counts per 1 copy cycle Mode 4: 8 counts per 1 copy cycle Mode 5: 10 counts per 1 copy cycle • When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting] and sizes other than Large Size are selected on [Large Size Counter Mode]. Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle ✻ Message Select the message type when the administrative unit is mounted. Type 1: Message for Key Counter Type 2: Message for Card scanning Type 3: Message for ID management Type 4: Message for Remote SW
	Management Device • Default setting: Unset Set "Unset"

12.3.3 Coverage Rate Clear

Functions	• To clear the coverage rate
Use	• Use to clear the coverage rate
Setting/ Procedure	• The default setting is Unset. Set "Unset" • Touching [END] key will clear the coverage rate.

13. Procedure for Resetting

13.1 Trouble resetting

Functions	• If the trouble occurs and the status would not be cleared by turning Main Power Switch OFF and ON again, or opening and closing the front door, clear the status of the machine.
Use	• To be used when the status would not be cleared by turning Main Power Switch OFF and ON again, or opening and closing the front door in case of a trouble.
Setting/ Procedure	*1.* Turn OFF the Main Power Switch. *2.* Turn Main Power Switch ON while pressing the Utility/Counter key. *3.* Touch [Trouble Reset]. *4.* Check to make sure that [OK] is displayed and the it has been reset. *5.* After turning off the Main Power Switch, turn it on again more than 10 seconds after and check if the machine starts correctly.

13.2 Contents to be cleared by Reset function

Items for clearing / Contents to be cleared		Front Door Open/Close	Trouble resetting	Initialization		Main power switch Off/On
				System Error Clear	Data Clear	
Jam display		❍	-	❍	❍	-
Malfunction display	Fusing	-	❍	❍	-	-
	Optical Scanner	❍	❍	❍	❍	❍
	CC151	-	-	-	-	❍
	Others	-	-	-	-	❍
Erratic operation / display		-	-	-	-	❍
Utility Mode (Except items on Expert adjustment.)		-	-	-	❍	-
Service Mode (System 1/2)		-	-	-	❐ *1	-
Billing Setting Counter Setting		-	-	-	❍	-
Adjustment of the touch panel position		-	-	-	❍	-

❍: Will be cleared (initialized)
-: Will not be cleared

❐ *1: Items to be cleared	
System 1	Marketing Area (Fax Target Only)
	Foolscap Size Setting
	Install Date
	Tel/Fax Number
	No Sleep
	Original Size Detection
System 2	HDD

14. Mechanical adjustment

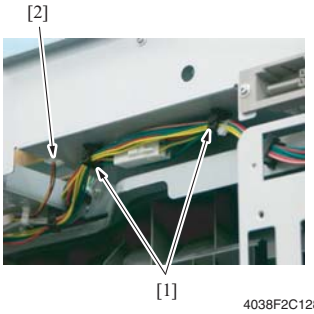
14.1 Mechanical adjustment of the scanner section

14.1.1 Adjustment of the Scanner Motor Belt

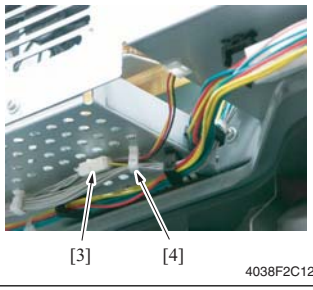
This adjustment must be made in the following case:

- **The Scanner Motor Assy has been removed.**
- **The Scanner Drive Cables have been rewound.**

1. Remove the Upper Rear Cover and the IR Rear Cover.
☞ 57, 54

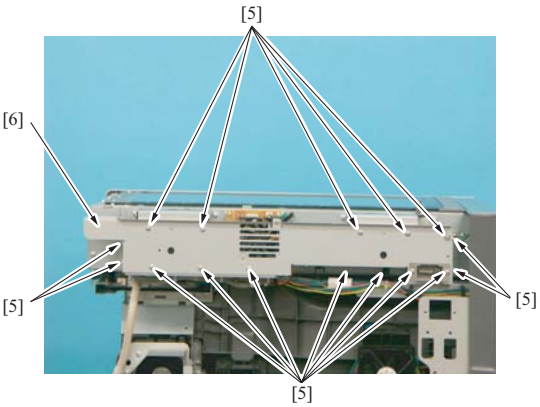


2. Remove the Harness from two Wire Saddles [1] and the Edge Cover [2].

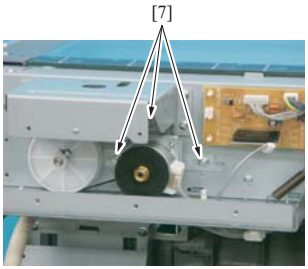


3. Disconnect the Connector [3], and remove the Harness from the Wire Saddle [4].

4. Remove 16 screws [5], and remove the Reinforcement frame [6].

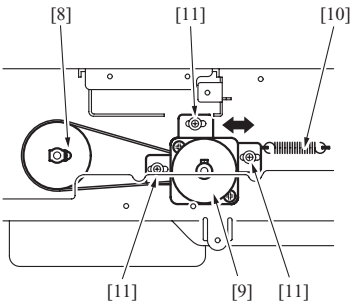


4038F2C130DA



4038F2C568DA

5. Loosen the three screws that secure the Scanner Motor mounting bracket [7].



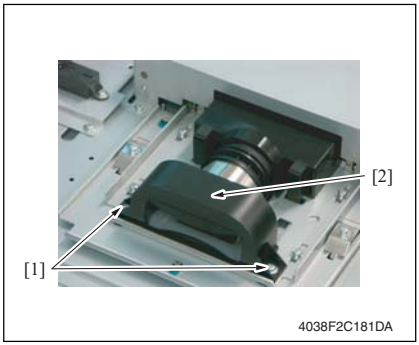
4038F3C508DA

6. With the Scanner drive gear set screw [8] located on the right-hand side as shown on the left, slide the Scanner Motor Assy [9] to the left and check that it is returned to the original position by the tension of the spring [10]. Perform this step three times.
7. Tighten the three screws [11] to fix the Scanner Motor Assy into position.

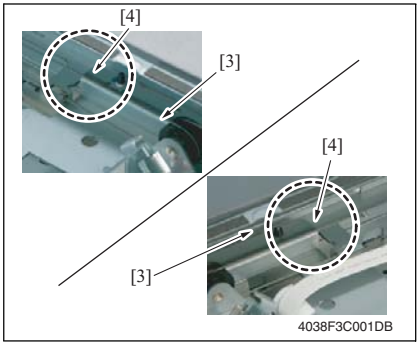
14.1.2 Focus Positioning of the Scanner and Mirrors Unit

This adjustment must be made in the following case:

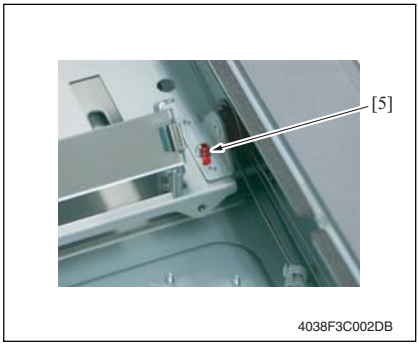
- **The Scanner Drive Cables have been rewound**



1. Remove two Screws [1] and Lens cover [2].



2. Slide the Mirrors Unit [3] to the center until it is pressed up against the cutouts in the rails [4].



3. If the Mirrors Unit is not pressed up against the cutouts, loosen the adjusting screw (to which red paint is applied) [5] of the Mirrors Unit and press the carriage up against the cutouts. Then, tighten the adjusting screw.

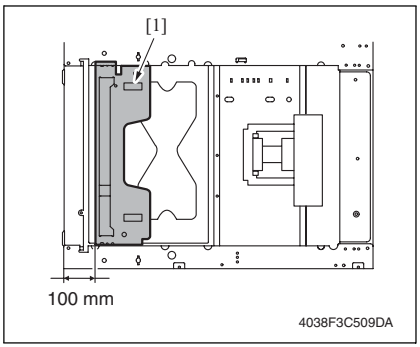
4. Slide the Mirrors Unit to the left and install the Lens Cover.

5. Then conduct Scanner positioning adjustment.

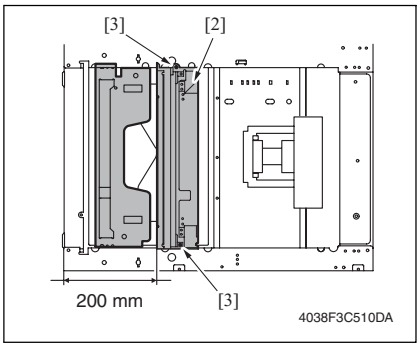
14.2 Scanner Position Adjustment

This adjustment must be made in the following case:

- **The Scanner Drive Cables have been rewound.**
- **Focus Positioning of the Scanner and Mirrors Unit must be completed.**



1. Slide the Mirrors Unit [1] to the position shown on the left.



2. Secure the Scanner [2] in the position shown on the left using the two Scanner positioning screws [3].

3. Make the Feed Direction Adjustment.

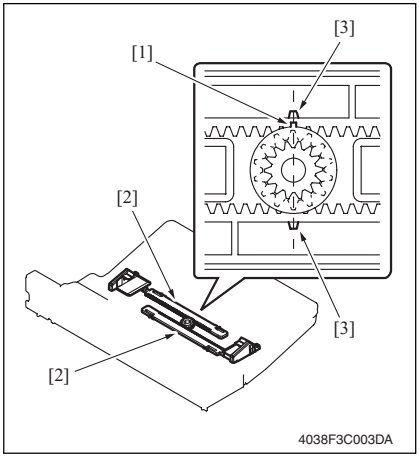
☞ 241

14.3 Mechanical adjustment of the bypass tray section

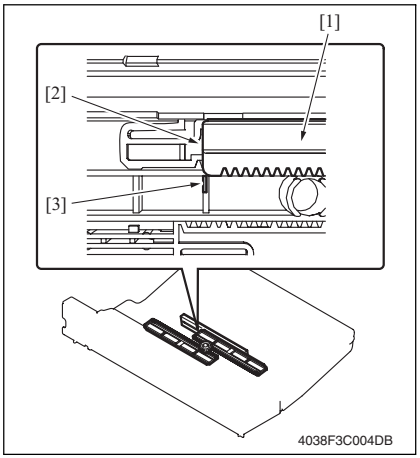
14.3.1 Adjustment of the Bypass Paper Size Unit

This adjustment must be made in the following case:

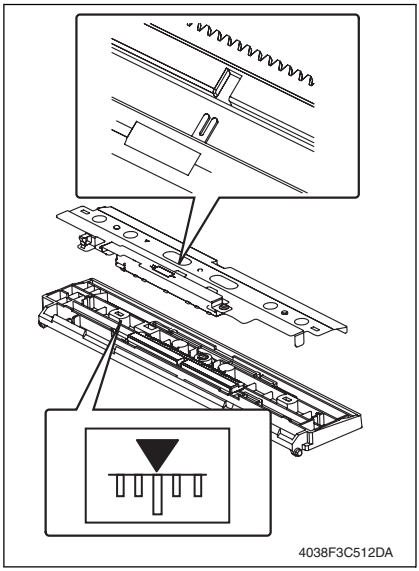
- **The Bypass Paper Size Unit has been removed.**



1. Install the gear so that the protrusion of the gear [1] and the mark [3] on the Bypass Guide Rack Gear [2] are aligned in a straight line.



2. Install the Bypass Unit Cover so that part A (edge) [2] of the Rack Gear [1] for the Bypass Paper Size Unit and part B [3] of the Bypass Unit Cover are aligned in a straight line.



3. When the Bypass Paper Size Unit base is mounted, align the lever position of the Bypass Paper Size Unit with the tab at the center in a straight line.

4. After the Bypass Paper Size Unit base has been mounted, check that the lever of the Bypass Paper Size Unit moves smoothly in a manner operatively connected to the Bypass Guide.
5. Call the Service Mode to the screen and select [Machine] → [Manual Bypass Tray Adjustment]. Then, carry out Manual Bypass Tray Adjustment.

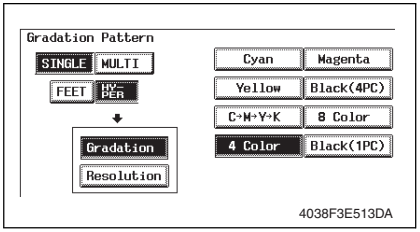
☞ 243

14.4 PH Unit Mechanical Adjustment

14.4.1 Skew Adjustment

This adjustment must be made in the following case:

- **When PH Unit is replaced.**



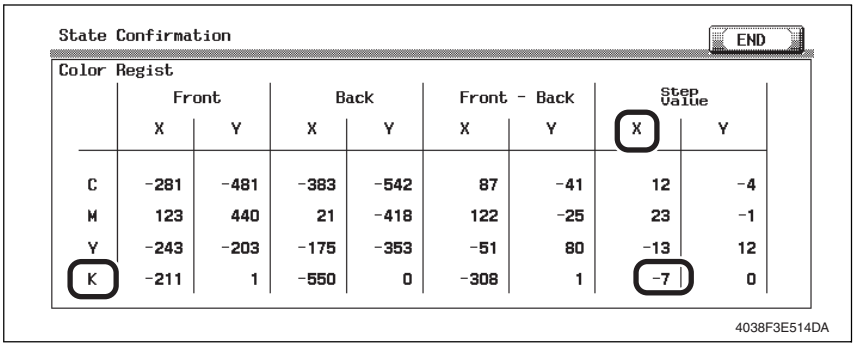
1. Turn on the Main Power Switch.
2. Select [Service Mode] → [Test Mode] → [Gradation Pattern] and output the test pattern with the following conditions.

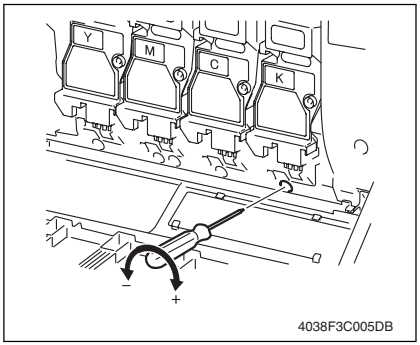
Conditions: SINGLE, HYPER, Gradation, 4 Color

3. Using the output test pattern, check if each color of CMYK is printed in correct pattern.
   If the pattern is not correct, any troubles such as connecting failure in PH Unit of the corresponding color may occur, which should be modified.
   If there isn't any problem, proceed to step 4.

4. Touch [Service Mode] → [Imaging Process Adjustment] → [Stabilizer] → [Initialize + Image Stabilization].
5. Display [Service mode] → [State Confirmation] → [Color Regist] and check if the Step Value: X of Black (k) is within the specification.

Specification: within ± 4





- If the value is out of the specification, follow the procedures shown below to adjust it to satisfy the specification.
- If the value satisfies the specification, proceed to step 9.

6. Open the Front Door.

7. Turn the Skew adjustment dial of PH (Black) for numeric of Step value with flathead screwdriver

- To the left: When the step value goes - direction
- To the right: When the step value goes + direction

<Adjustment sample>

If the step value confirmed in step 4 is [-7], turn the skew adjustment dial of PH (Black) to the left (- direction) for 7 clicks.

8. Close the Front door and touch [Imaging Process Adjustment] → [Stabilizer] -→ [Initialize + Image Stabilization].

9. After image stabilization is completed, display [Service Mode] → [State Confirmation] → [Color Regist] again and check if the Step Value: X of Black (k) is within the specification.

NOTE

- **Each color's Step value displayed on [Color Regist] changes every time the image stabilization is conducted. Therefore the value may change even if skew adjustment is not made.**

- If the value is out of the specification, repeat step 5 to 6 to continue the adjustment until it satisfies the specification.
- If the value satisfies the specification, proceed to step 9.

10. Check if the Step Value: X of each color C, M, Y, is within the specification.

Specification: within ± 4

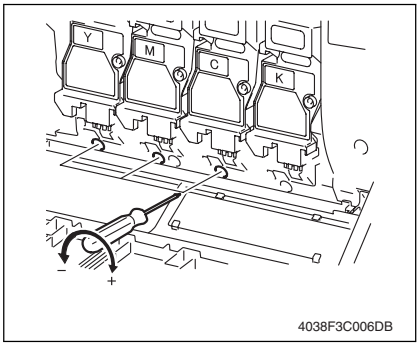
State Confirmation

END

Color Regist

	Front		Back		Front - Back		Step Value	
	X	Y	X	Y	X	Y	X	Y
C	-281	-481	-383	-542	87	-41	-3	-4
M	123	440	21	-418	122	-25	2	-1
Y	-243	-203	-175	-353	-51	80	-5	12
K	-211	1	-550	0	-308	1	-1	0

4038F3E515DA



- If either value is out of the specification, follow the procedures shown below to adjust it to satisfy the specification.
- If the value of all color, C, M, Y, K, satisfy the specification, proceed to step 14.

11. Open the Front Door.

12. Turn the Skew adjustment dial of the corresponding PH with flathead screwdriver.

- To the left: When the step value goes - direction
- To the right: When the step value goes + direction

<Adjustment sample>

If the yellow value, among the step values confirmed in step 9, is [-5], which means out of the specification, turn the skew adjustment dial of PH (Yellow) to the left (- direction) for 5 clicks.

13. Close the Front door and touch [Imaging Process Adjustment] → [Stabilizer] → [Initialize + Image Stabilization].

14. After image stabilization is completed, display [Service mode] → [State Confirmation] → [Color Regist] again and check if the Step Value: X of each color C, M, Y, is within the specification.

NOTE

- **Each color's Step value displayed on [Color Regist] changes every time the image stabilization is conducted. Therefore the value may change even if skew adjustment is not made.**

- If either value is out of the specification, repeat step 10 to 13 to continue the adjustment until all CMYK colors satisfy the specification.

15. Exit the Service Mode.

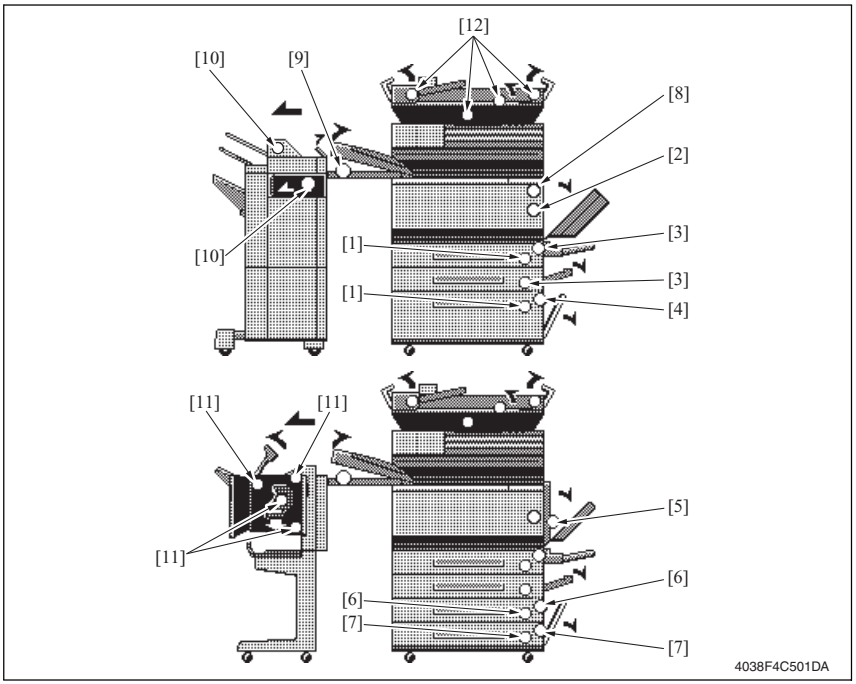
Blank Page

Troubleshooting

15. Jam Display

15.1 Misfeed Display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the Touch Panel of the machine.



Display	Code *1	Misfeed Location	misfeed processing location	Action
[1]	1101	Tray 1 feed section	Right Door	☞ 318
[2]	3001	2nd Image Transfer section	Right Door	☞ 319
[3]	1201	Tray 2 feed section	Tray 2 Right Door	☞ 320
	2001	Tray 2 vertical transport section	Tray 2 Right Door	
	1001	Manual Bypass feed section	Right Door	
[4]	1501	LCT feed section	LCT Right Door	☞ 322
	2001	LCT vertical transport section	LCT Right Door	
[5]	9301	Duplex Unit transport section	Duplex Unit Right Door	☞ 325
	9201	Duplex Unit pre-registration section		
[6]	1301	Tray 3 feed section	Paper Feed Unit Right Door	☞ 323
	2001	Tray 3 vertical transport section		
[7]	1401	Tray 4 feed section		☞ 324
	2001	Tray 4 Vertical transport section		
[8]	3201	Fusing, Exit section	Right Door	☞ 327
[9]	7403	Horizontal transport	Horizontal transport cover	*2, *3
[10]	7401 7402 7404 7405 7406	Finisher FS-501 / Job Separator JS-601	Finisher Door	*2
[11]	7401 7403 7404 7405 7407	Finisher FS-603	Finisher Door	*3
[12]	6401 6402 6403 6404	Automatic Document Feeder DF-601	Document Feeder Door	*4

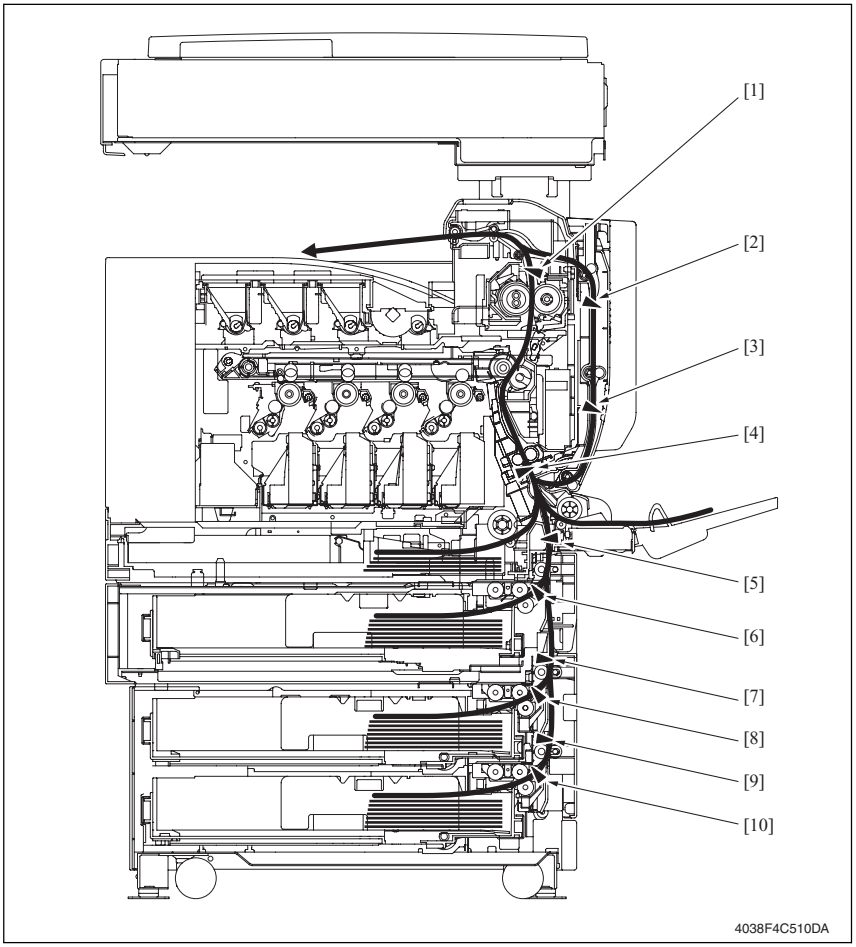
*1: JAM Code is displayed at [Paper Jam History] under [Counter] available from Service Mode.
*2: See the optional FS-501 Service Manual.
*3: See the optional FS-603 Service Manual.
*4: See the optional DF-601 Service Manual.

15.1.1 Misfeed Display Resetting Procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

15.2 Sensor layout

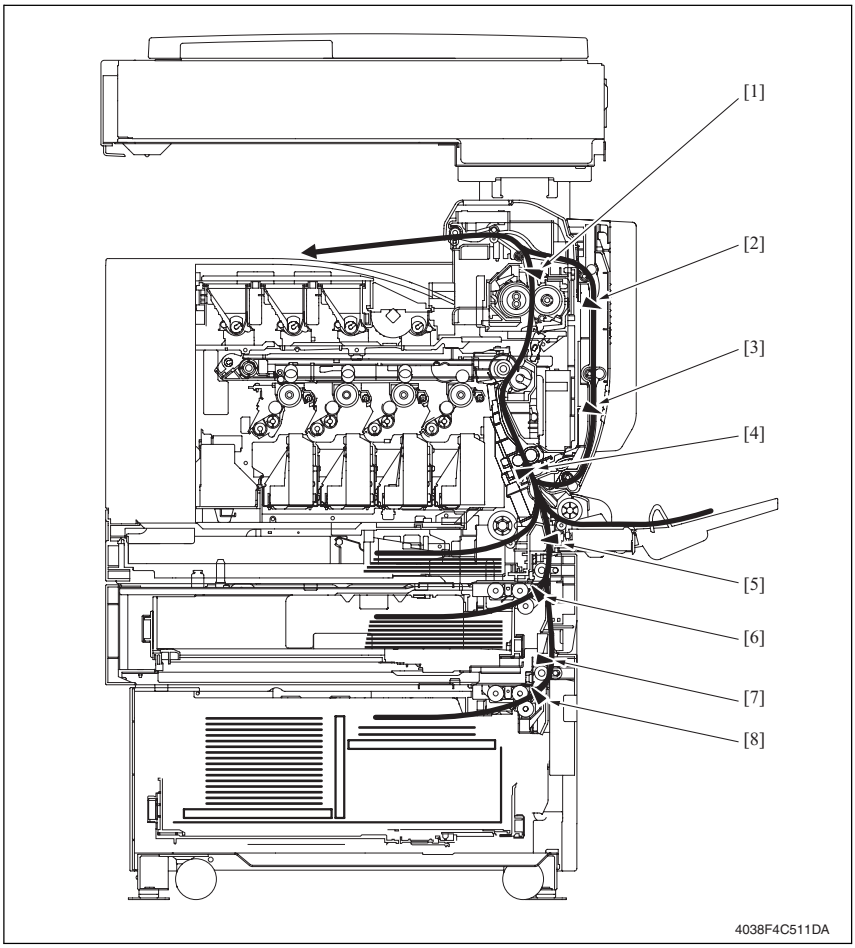
- System Mounted with PC-203.



[1]	Exit Sensor	PC2	[6]	Tray 2 Paper Take-Up Sensor	PC9-PC
[2]	Duplex Unit Transport Sensor 1	PC1 DU	[7]	Tray 3 Vertical Transport Sensor	PC117-PC
[3]	Duplex Unit Transport Sensor 2	PC2 DU	[8]	Tray 3 Take-up Sensor	PC116-PC
[4]*1	Registration Roller Sensor	PC1	[9]	Tray 4 Vertical Transport Sensor	PC126-PC
[4]*1	OHP Sensor	PC4	[10]	Tray 4 Take-up Sensor	PC125-PC
[5]	Tray 2 Vertical Transport Sensor	PC8-PC			

*1: Two different types of sensors are located in the area near [4].

- System Mounted with PC-403.



[1]	Exit Sensor	PC2	[5]	Tray 2 Vertical Transport Sensor	PC8-PC
[2]	Duplex Unit Transport Sensor 1	PC1 DU	[6]	Tray 2 Paper Take-Up Sensor	PC9-PC
[3]	Duplex Unit Transport Sensor 2	PC2 DU	[7]	Vertical Transport Sensor	PC2-LCT
[4]*1	Registration Roller Sensor	PC1	[8]	Paper Take-up Sensor	PC1-LCT
[4]*1	OHP Sensor	PC4			

*1: Two different types of sensors are located in the area near [4].

15.3 Solution

15.3.1 Initial Check Items

- When a paper misfeed occurs, first make checks of the following initial check items

Check Item	Action
Does paper meet product specifications?	Change paper.
Is paper curled, wavy, or damp.	Change paper. Instruct user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or change the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at correct position to accommodate paper?	Set as necessary.
Are actuators found operational as checked for correct operation?	Correct or change the defective actuator.

15.3.2 Misfeed at Tray 1 feed section

A. Detection Timing

Type	Description
Detection of misfeed at Tray 1 feed section	The leading edge of the paper does not block the Registration Roller Sensor (PC1) even after the lapse of a given period of time after the Tray 1 Paper Feed Clutch (CL2) has been energized.
Tray 1 Feed section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at Tray 1 feed.

B. Action

Relevant Electrical Parts	
Tray 1 Paper Feed Clutch (CL2) Registration Roller Sensor (PC1)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
3	CL2 operation check	PWB-M CNLP-13 (ON)	C-9 to 10
4	Change PWB-M	—	—

15.3.3 Misfeed at 2nd Image Transfer section

A. Detection Timing

Type	Description
Detection of misfeed at 2nd Image Transfer section	The leading edge of the paper does not block the Exit Sensor (PC2) even after the lapse of a given period of time after the Registration Roller Clutch (CL1) has been energized.
	The Registration Roller Sensor (PC1) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in 2nd Image Transfer section	The Registration Roller Sensor (PC1) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The OHP Sensor (PC4) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Exit Sensor (PC2) is blocked when the Image Transfer Belt Unit is being cleaned.
Misfeed detected as a result of delayed deactivation of sensor	Registration Roller Sensor (PC1) does not transmit the paper even after the lapse of a given period of time after the paper has blocked PC1 at Tray 1 feed.
2nd Image Transfer section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making loop at front of the Registration Roller when the sensor at front of the Registration Roller is blocked at Paper feed.

B. Action

Relevant Electrical Parts	
Registration Roller Sensor (PC1) Exit Sensor (PC2) OHP Sensor (PC4) Registration Roller Clutch (CL1)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
3	PC2 I/O check, Sensor check	PWB-M CNTH2-8 (ON)	C-13
4	PC4 I/O check, Sensor check	PWB-M CNSEN-6 (ON)	C-3
5	CL1 operation check	PWB-M CNSEN-18 (ON)	C-4
6	Change PWB-M	—	—

15.3.4 Misfeed at Tray 2 feed, Tray 2 vertical transport section

A. Detection Timing

Type	Description
Detection of misfeed at Tray 2 feed section	The leading edge of the paper does not block the Tray 2 Vertical Transport Sensor (PC8-PC) even after the lapse of a given period of time after the Tray 2 Paper Feed Motor (M1-PC) has been energized.
Detection of misfeed at Tray 2 vertical transport section	The Registration Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray 2 Vertical Transport Sensor (PC8-PC).
	Tray 2 Vertical Transport Sensor (PC8-PC) does not transmit the paper even after the lapse of a given period of time after the paper has blocked PC8-PC.
Tray 2 Vertical Transport section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at Tray 2 feed.
Detection of paper left in Tray 2	Tray 2 Vertical Transport Sensor (PC8-PC) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	Tray 2 Paper Take-Up Sensor (PC9-PC) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Tray 2 Paper Take-Up Sensor (PC9-PC) Tray 2 Vertical Transport Sensor (PC8-PC) Registration Roller Sensor (PC1) Tray 2 Paper Feed Motor (M1-PC)	Tray 2 Control Board (PWB-Z-PC) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC9-PC I/O check, Sensor check	PWB-Z-PC PJ6Z PC-8 (ON)	S-25
3	PC8-PC I/O check, Sensor check	PWB-Z-PC PJ6Z PC-11 (ON)	S-25
4	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
5	M1-PC operation check	PWB-Z-PC PJ5Z PC-1 to 4	M-24
6	Change PWB-Z-PC	—	—
7	Change PWB-M	—	—

15.3.5 Misfeed at Manual Bypass feed section

A. Detection Timing

Type	Description
Detection of misfeed at Manual Bypass feed section	The leading edge of the paper does not block the Registration Roller Sensor (PC1) even after the lapse of a given period of time after the Bypass Paper Feed Clutch (CL5) has been energized.
Manual Bypass feed section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at Bypass feed.

B. Action

Relevant Electrical Parts	
Registration Roller Sensor (PC1) Bypass Paper Feed Clutch (CL5)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
3	CL5 operation check	PWB-M CNTRY1-2 (ON)	C-7 to 8
4	Change PWB-M	—	—

15.3.6 Misfeed at LCT feed and LCT vertical transport section (PC-403)

A. Detection Timing

Type	Description
Detection of misfeed at LCT feed section	The leading edge of the paper does not block the Paper Take-up Sensor (PC1-LCT) or Vertical Transport Sensor (PC2-LCT) even after the lapse of a given period of time after the Take-up Motor (M1-LCT) has been energized.
Detection of misfeed at LCT vertical transport section	The Tray 2 Vertical Transport Sensor (PC8-PC) is not blocked even after the lapse of a given period of time after the paper has blocked the Vertical Transport Sensor (PC2-LCT).
	The Vertical Transport Sensor (PC2-LCT) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
LCT Vertical Transport section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at LCT feed.
Detection of paper left in LCT	The Vertical Transport Sensor (PC2-LCT) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Paper Take-up Sensor (PC1-LCT) Vertical Transport Sensor (PC2-LCT) Tray 2 Vertical Transport Sensor (PC8-PC) Take-up Motor (M1-LCT) Registration Roller Sensor (PC1)	Control Board (PWB-C1 LCT) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
3	PC1-LCT I/O check, Sensor check	PWB-C1 LCT PJ5C1 LCT-2 (ON)	PC-403 C-7
4	PC2-LCT I/O check, Sensor check	PWB-C1 LCT PJ5C1 LCT-5 (ON)	PC-403 C-7
5	PC8-PC I/O check, Sensor check	PWB-Z-PC PJ6Z PC-11 (ON)	S-25
6	M1-LCT operation check	PWB-C1 LCT PJ6C1 LCT-1 to 4	PC-403 C-8
7	Change PWB-C1 LCT	—	—
8	Change PWB-M	—	—

15.3.7 Misfeed at Tray 3 Feed and Tray 3 vertical transport section (PC-103/PC203)

A. Detection Timing

Type	Description
Detection of misfeed at Tray 3 feed or Vertical Transport Section	The leading edge of the paper does not block the Tray 3 Vertical Transport Sensor (PC117-PC) even after the lapse of a given period of time after the Tray3 Take-up Motor (M122-PC) has been energized.
	The Tray 2 Vertical Transport Sensor (PC8-PC) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray 3 Vertical Transport Sensor (PC117-PC).
	The Tray 3 Vertical Transport Sensor (PC117-PC) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Tray 3 Vertical Transport section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at Tray 3 feed.
Detection of paper left in Tray 3	The Tray 3 Vertical Transport Sensor (PC117-PC) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray 3 Take-Up Sensor (PC116-PC) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Tray 3 Take-Up Sensor (PC116-PC) Tray 3 Vertical Transport Sensor (PC117-PC) Tray 2 Vertical Transport Sensor (PC8-PC) Tray3 Take-up Motor (M122-PC) Registration Roller Sensor (PC1)	Control Board (PWB-C2 PC) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
3	PC116-PC I/O check, Sensor check	PWB-C2 PC PJ6C2 PC-8 (ON)	PC-103/203 C-4
4	PC117-PC I/O check, Sensor check	PWB-C2 PC PJ6C2 PC-11 (ON)	PC-103/203 C-4
5	PC8-PC I/O check, Sensor check	PWB-Z-PC PJ6Z PC-11 (ON)	S-25
6	M122-PC operation check	PWB-C2 PC PJ5C2 PC-1 to 4	PC-103/203 C-4
7	Change PWB-C2 PC	—	—
8	Change PWB-M	—	—

15.3.8 Misfeed at Tray 4 Feed and Tray 4 vertical transport section (PC203)

A. Detection Timing

Type	Description
Detection of misfeed at Tray 4 feed or Vertical Transport Section	The leading edge of the paper does not block the Tray 4 Vertical Transport Sensor (PC126-PC) even after the lapse of a given period of time after the Tray4 Take-up Motor (M123-PC) has been energized.
	The Tray 3 Vertical Transport Sensor (PC117-PC) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray 4 Vertical Transport Sensor (PC126-PC).
	The Tray 4 Take-Up Sensor (PC125-PC) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Tray 4 Vertical Transport section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at Tray 4 feed.
Detection of paper left in Tray 4	The Tray 4 Vertical Transport Sensor (PC126-PC) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray 4 Take-Up Sensor (PC125-PC) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Tray 4 Take-Up Sensor (PC125-PC) Tray 4 Vertical Transport Sensor (PC126-PC) Tray 3 Vertical Transport Sensor (PC117-PC) Tray4 Take-up Motor (M123-PC) Registration Roller Sensor (PC1)	Control Board (PWB-C2 PC) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
3	PC125-PC I/O check, Sensor check	PWB-C2 PC PJ10C2 PC-8 (ON)	PC-103/203 G-6
4	PC126-PC I/O check, Sensor check	PWB-C2 PC PJ11C2 PC-2 (ON)	PC-103/203 G-6
5	PC117-PC I/O check, Sensor check	PWB-C2 PC PJ6C2 PC-11 (ON)	PC-103/203 C-4
6	M123-PC operation check	PWB-C2 PC PJ9C2 PC-1 to 4	PC-103/203 G-6 to 7
7	Change PWB-C2 PC	—	—
8	Change PWB-M	—	—

15.3.9 Misfeed at Duplex transport section (AD-503)

A. Detection Timing

Type	Description
Detection of misfeed at Duplex Transport section	The Duplex Unit Transport Sensor 2 (PC2 DU) is not blocked even after the lapse of a given period of time after the paper has blocked the Duplex Unit Transport Sensor 1 (PC1 DU).
	The Duplex Unit Transport Sensor 1 (PC1 DU) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
	The Duplex Unit Transport Sensor 2 (PC2 DU) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in Duplex Transport Section	Duplex Unit Transport Sensor 1 (PC1 DU) or Duplex Unit Transport Sensor 2 (PC2 DU) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Duplex Unit Transport Sensor 1 (PC1 DU) Duplex Unit Transport Sensor 2 (PC2 DU) Duplex Unit Switchback Motor (M1 DU) Duplex Unit Transport Motor (M2 DU)	Duplex Control Board (PWB-A DU) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 DU I/O check, Sensor check	—	Q-21
3	PC2 DU I/O check, Sensor check	—	Q-21
4	M1 DU operation check	PWB-A DU PJ4A DU-1 to 4	R-22
5	M2 DU operation check	PWB-A DU PJ5A DU-1 to 4	R-22
6	Change PWB-A DU	—	—
7	Change PWB-M	—	—

15.3.10 Misfeed at Duplex Unit pre-registration section (AD-503)

A. Detection Timing

Type	Description
Detection of misfeed at Duplex pre-registration section	The Registration Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after a Duplex paper feed sequence has been started.
Duplex Unit Pre-registration section Loop Registration Reversing JAM detection	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at pre-registration feed.

B. Action

Relevant Electrical Parts	
Registration Roller Sensor (PC1) Duplex Unit Switchback Motor (M1 DU) Duplex Unit Transport Motor (M2 DU)	Duplex Control Board (PWB-A DU) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-M CNSEN-3 (ON)	C-3
3	M1 DU operation check	PWB-A DU PJ4A DU-1 to 4	R-22
4	M2 DU operation check	PWB-A DU PJ5A DU-1 to 4	R-22
5	Change PWB-A DU	—	—
6	Change PWB-M	—	—

15.3.11 Misfeed at Fusing/Exit section

A. Detection Timing

Type	Description
Detection of misfeed at Fusing/ Exit Section	PC2 is not unblocked even after the lapse of a given period of time after the paper has blocked the Exit Sensor (PC2).
	The Duplex Unit Transport Sensor 1 (PC1 DU) is not blocked even after the lapse of a given period of time after the Exit Sensor (PC2) has been unblocked by the paper during a switchback sequence.
Detection of paper left in Exit Section	Exit Sensor (PC2) is blocked when the Main Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

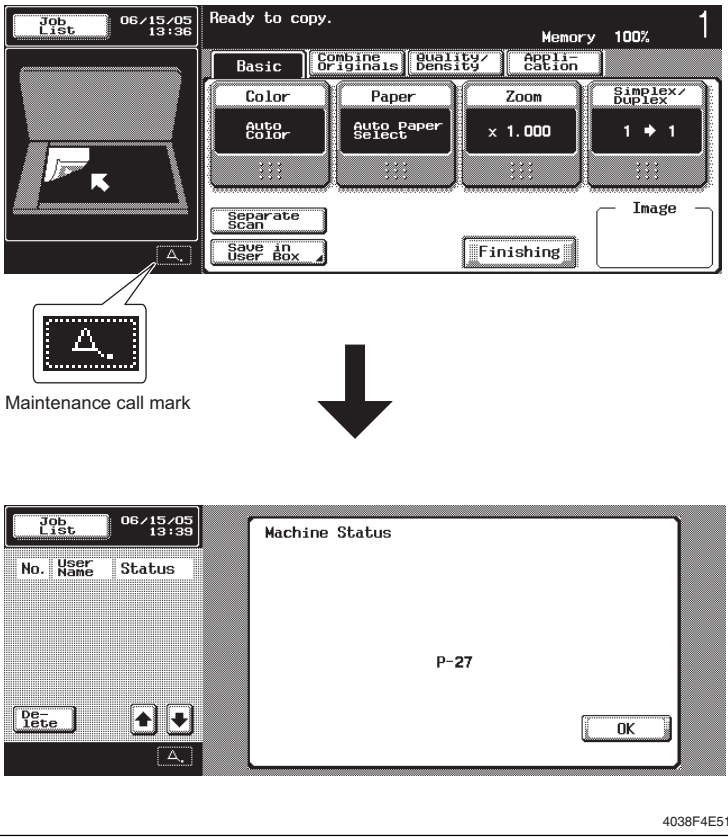
Relevant Electrical Parts	
Exit Sensor (PC2) Duplex Unit Transport Sensor 1 (PC1 DU)	Duplex Control Board (PWB-A DU) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC2 I/O check, Sensor check	PWB-M CNTH2-8 (ON)	C-13
3	PC1 DU I/O check, Sensor check	—	Q-21
4	Change PWB-A DU	—	—
5	Change PWB-M	—	—

16. Malfunction code

16.1 Alert code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the Touch Panel.
- Touching the maintenance call mark will display the corresponding warning code on the State Confirm screen.



16.1.1 Alert list

- If an image stabilization or Scanner fault occurs, the corresponding warning code appears.

Code	Item	Description
S-1	CCD clamp gain adjustment failure	• It is detected that the CCD clamp gain adjustment value is faulty.
P-5	IDC Sensor (Front) failure	• All outputs of Sensor photoreceiver section from the detection point (unprinted surface on the Image Transfer Belt) are 0.5 V or less or 4.3 V or more at output checking during IDC/Registration Sensor adjustment. • All outputs of Sensor photoreceiver section from the detection point (unprinted surface on the Image Transfer Belt) are 1.9 V or less or 4.4 V or more at density setting during IDC/Registration Sensor adjustment. • The output of Sensor photoreceiver section from the detection point (toner pattern on the Image Transfer Belt) is 1.0 V or less after the adjustment.
P-28	IDC Sensor (Back) failure	
P-6	Cyan Imaging Unit failure	• All density readings taken from the density pattern produced on the Transfer Belt are 0.5 g/m^2 (IDC Sensor photoreceiver output) or less during max. density adjustment (Vg/Vdc adjustment). • All density readings taken from the density pattern produced on the Transfer Belt are 4.5 g/m^2 (IDC Sensor Photoreceiver output) or more during max. density adjustment (Vg/Vdc adjustment.)
P-7	Magenta Imaging Unit failure	
P-8	Yellow Imaging Unit failure	
P-9	Black Imaging Unit failure	
P-21	Color Shift Test Pattern failure	• The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction. • The number of points detected in the Sub Scan Direction is more or less than the specified value during sub scan direction registration correction.
P-22	Color Shift Adjust failure	• The color shift amount is greater than the specified range during main scan direction registration correction. • The color shift amount is greater than the specified range during sub scan direction registration correction. • The skew correction amount is greater than the specified value.
P-26	1st Image Transfer ATVC (K) failure	• An abnormal average value is detected during an adjustment of the first image transfer ATVC value of Black.
P-27	2nd Image Transfer ATVC failure	• An abnormal average value is detected during an adjustment of the second image transfer ATVC value.
P-29	1st Image Transfer ATVC (color) failure	• An abnormal average value is detected during an adjustment of the first image transfer ATVC value of color.
P-30	Color PC Drum Sensor malfunction	• The output from the Color PC Drive Main and Sub Sensors remains unchanged for a continuous period of 1,000 ms while the Color PC Drum Motor is turning stably and the Lock signal is active (LOW-0).
P-31	Black PC Drum Sensor malfunction	• The output from the Black PC Drive Main and Sub Sensors remains unchanged for a continuous period of 1,000 ms while the Main Motor is turning stably and the Lock signal is active (LOW-0).

16.2 Solution

16.2.1 S-1: CCD clamp/gain adjustment failure

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action
1	Correct the harness connection between PWB-A and PWB-C if faulty.
2	Check for possible extraneous light and correct as necessary.
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty
4	Correct reflective mirror of the Scanner if faulty, or change Scanner.
5	Change PWB-A.
6	Change PWB-C.

16.2.2 P-5: IDC Sensor (Front) failure

16.2.3 P-28 IDC Sensor (Back) failure

Relevant Electrical Parts	
IDC / Registration Sensor /1 (SE1) IDC / Registration Sensor /2 (SE2)	Mechanical Control Board (PWB-M) High Voltage Unit (HV1) Image Transfer Belt Unit

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.
3	Reinstall or reconnect SE1 or SE2 if it is installed or connected improperly.
4	Clean SE1 or SE2 if it is dirty
5	Check the HV1 connector for proper connection and correct as necessary.
6	Open and close the Left Door, run an image stabilization sequence, and select [State Confirmation] → [Level History 1] to check the IDC value. IDC1: SE1, IDC2: SE2 If the value is 1.0 V or less, change SE1 or SE2.
7	Change PWB-M

16.2.4 P-6: Cyan Imaging Unit failure

16.2.5 P-7: Magenta Imaging Unit failure

16.2.6 P-8: Yellow Imaging Unit failure

16.2.7 P-9: Black Imaging Unit failure

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Imaging Unit /K	Image Transfer Belt Unit High Voltage Unit (HV1)

Step	Action
1	Select [Imaging Process Adjustment] → [D Max Density] and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the Imaging Unit and correct as necessary.
3	Clean the IDC / Registration Sensor /1 (SE1) or IDC / Registration Sensor /2 (SE2) window if dirty.
4	Clean the contact of the Imaging Unit connector if dirty
5	Check the HV1 connector for proper connection and correct as necessary.
6	Change Imaging Unit.
7	Change the Image Transfer Belt Unit.

16.2.8 P-21: Color Shift Test Pattern failure

Relevant Electrical Parts	
Image Transfer Belt Unit	

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.

16.2.9 P-22: Color Shift Adjust failure

Relevant Electrical Parts	
IDC / Registration Sensor /1 (SE1)	IDC / Registration Sensor /2 (SE2)

Step	Action
1	Slide out the Imaging Unit and reinstall it in position.
2	Reinstall or reconnect SE1 or SE2 if it is installed or connected improperly.
3	Check the Vertical Transport Guide for installed position and correct as necessary.

16.2.10 P-26: 1st image transfer ATVC (Black) failure

16.2.11 P-27: 2nd image transfer ATVC failure

16.2.12 P-29: 1st image transfer ATVC (Color) failure

Relevant Electrical Parts	
High Voltage Unit (HV1) Mechanical Control Board (PWB-M)	Image Transfer Belt Unit

Step	Action
1	Check the contact of the Transfer Belt Unit and that of HV1 for connection and clean or correct the contact as necessary.
2	Change the Image Transfer Belt Unit.
3	Change HV1.
4	Change PWB-M.

16.2.13 P-30: Color PC Drum Sensor malfunction

Relevant Electrical Parts	
Color PC Drive Main Sensor (PC17) Color PC Drive Sub Sensor (PC18)	Transport Drive Assy Mechanical Control Board (PWB-M)

Step	Action
1	Perform the faulty sensor check procedure *1.
2	Check the sensor, for which a faulty condition has been checked, for installed position and proper connector connection.
3	Wipe the sensor, for which a faulty condition has been checked, clean of dirt if any.
4	If P-30 occurs again, change the Transport Drive Assy.
5	Change PWB-M.

*1: Faulty sensor check procedure

1. Open the Front Door and turn ON the Main Power Switch of the machine.
2. Call the [Sensor Check] screen to the screen by way of Service Mode.

☞ For details how to display, see “Adjustment /Setting.”

3. Close the Front Door and start [Stabilizer].
4. During the Stabilizer sequence, check to see if the values of the phase detection sensors (Color PC Drive Main/Sub Sensors) change.
5. A sensor is faulty if its value does not change.

16.2.14 P-31: Black PC Drum Sensor malfunction

Relevant Electrical Parts	
Black PC Drive Main Sensor (PC15) Black PC Drive Sub Sensor (PC16)	Transport Drive Assy Mechanical Control Board (PWB-M)

Step	Action
1	Perform the faulty sensor check procedure *1.
2	Check the sensor, for which a faulty condition has been checked, for installed position and proper connector connection.
3	Wipe the sensor, for which a faulty condition has been checked, clean of dirt if any.
4	If P-31 persists, change the Transport Drive Assy.
5	Change PWB-M.

*1: Faulty sensor check procedure

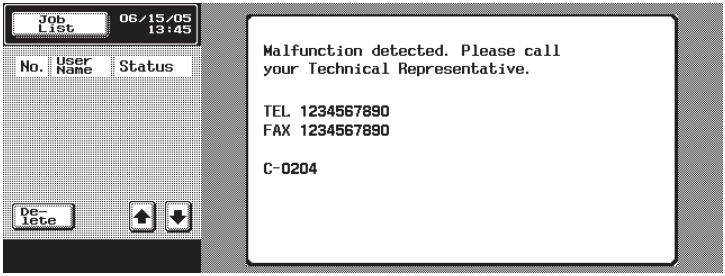
1. Open the Front Door and turn ON the Main Power Switch of the machine.
2. Call the [Sensor Check] screen to the screen by way of Service Mode.

☞ For details how to display, see “Adjustment /Setting.”

3. Close the Front Door and start [Stabilizer].
4. During the Stabilizer sequence, check to see if the values of the phase detection sensors (Black PC Drive Main/Sub Sensors) change.
5. A sensor is faulty if its value does not change.

16.3 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the Touch Panel.



4038F4E513DA

16.3.1 Trouble code list

* For the details of the malfunction codes of the options, see the Service Manual for the corresponding option.

Code	Item	Description	Rank
C0001	LCT Connection failed	☞ See PC-403 Service Manual.	B
C0102	LCT Vertical Transport Motor malfunction		B
C0204	Tray 2 Elevator failure	• The Lift-Up Sensor is not blocked even after the lapse of a given period of time after the lifting motion has been started.	B
C0206	Tray 3 Elevator failure	☞ See PC-103/PC-203 Service Manual.	B
C0208	Tray 4 Elevator failure		B
C0209	LCT Elevator Motor malfunction (Elevator malfunction)	☞ See PC-403 Service Manual.	B
C0210	LCT ascent motion failure		B
C0211	Manual Tray Rise Descent Error	• The Bypass Lift-Up Sensor is not blocked even when the Tray 2 Vertical Transport Motor has turned for a given number of pulses after the sequence to move the Paper Lifting Plate from the standby position to the feed position was started. • The Bypass Lift-Up Sensor is not unblocked even when the Tray 2 Vertical Transport Motor has turned for a given number of pulses after the sequence to move the Paper Lifting Plate from the feed position to the standby position was started.	B
C0212	LCT ejection failure	☞ See PC-403 Service Manual.	B
C0213	LCT Shift Gate malfunction		B
C0214	LCT shifting failure		B
C0215	LCT Shift Motor malfunction		B

Code	Item	Description	Rank
C0301	Suction Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C1180	Finishing option transport system malfunction	☞ See FS-501 or FS-603 Service Manual.	B
C1181	Finishing option Paddle Motor malfunction		B
C1182	Finishing option Shift Motor mechanism malfunction		B
C1183	Finishing option Elevator drive malfunction		B
C1190	Finishing option Aligning Bar moving mechanism malfunction		B
C1192	Finishing option Front Aligning Motor malfunction		B
C1193	Finishing option Rear Aligning Motor malfunction		B
C11A1	Finishing option Exit Roller pressure/retraction failure		B
C11A2	Finishing option Storage Roller pressure/retraction failure		B
C11A4	Finishing option Exit Motor malfunction		B
C11B0	Finishing option Stapler Unit CD drive failure		B
C11B1	Finishing option Stapler Unit Slide Motor malfunction		B
C11B2	Finishing option stapling mechanism malfunction 1		B
C11B4	Finishing option Staple/Folding Motor malfunction		B
C11C1	Finishing option Punch Cam Motor drive failure		C
C11C2	Finishing option Punch Unit Board malfunction		C
C11C3	Finishing option Punch Side Registration Motor malfunction		C
C11C5	Finishing option Punch Sensor malfunction		C
C1401	Finishing option Backup RAM failure		B

Code	Item	Description	Rank
C2151	2nd Image Transfer Roller Separation	• The 2nd Image Transfer Pressure Position Sensor doesn't turn ON (Retracting) even after the lapse of a given period of time after the 2nd Image Transfer Pressure/Retraction Motor has started rotating during the 2nd Image Transfer Roller is retracting. • The 2nd Image Transfer Pressure Position Sensor doesn't turn OFF (Pressuring) even after the lapse of a given period of time after the 2nd Image Transfer Pressure/Retraction Motor has started rotating during the 2nd Image Transfer Roller is pressuring.	B
C2152	Transfer Belt Separation	• The 1st Image Transfer Pressure/Retraction Position Sensor doesn't turn ON (Retracting) even after the lapse of a given period of time after the 1st Image Transfer Pressure/Retraction Clutch has turned ON during the Transfer Belt is retracting. • The 1st Image Transfer Pressure/Retraction Position Sensor doesn't turn OFF (Pressuring) even after the lapse of a given period of time after the 1st Image Transfer Pressure/Retraction Clutch has turned ON during the Transfer Belt is pressuring.	B
C2253	Color PC Drum Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C2254	Color PC Drum Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B
C2255	Color Developing Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C2256	Color Developing Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B
C2451	Transfer Cleaner Unit New Article Release	• A new installation is not detected when a new Transfer Cleaner Unit (Image Transfer Belt Unit) is installed.	B
C2551	Abnormally low toner density detected Cyan TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 5 % or less for a given number of times consecutively.	B
C2552	Abnormally high toner density detected Cyan TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 12 % or more for a given number of times consecutively.	B
C2553	Abnormally low toner density detected Magenta TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 5 % or less for a given number of times consecutively.	B

Code	Item	Description	Rank
C2554	Abnormally high toner density detected Magenta TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 12 % or more for a given number of times consecutively.	B
C2555	Abnormally low toner density detected Yellow TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 5 % or less for a given number of times consecutively.	B
C2556	Abnormally high toner density detected Yellow TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 12 % or more for a given number of times consecutively.	B
C2557	Abnormally low toner density detected Black TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 5 % or less for a given number of times consecutively.	B
C2558	Abnormally high toner density detected Black TCR Sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 12 % or more for a given number of times consecutively.	B
C2559	Cyan TCR Sensor adjustment failure	• TCR Sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.	B
C255A	Magenta TCR Sensor adjustment failure		B
C255B	Yellow TCR Sensor adjustment failure		B
C255C	Black TCR Sensor adjustment failure		B
C2651	Cyan Imaging Unit EEPROM access error	• The re-written data, which has been read out, checked and founded as error, is read out again and found as error. • The error was found when reading out the counter value.	C
C2652	Magenta Imaging Unit EEPROM access error		C
C2653	Yellow Imaging Unit EEPROM access error		C
C2654	Black Imaging Unit EEPROM access error		C
C2A01	Cyan Toner Cartridge EEPROM access error	• The re-written data, which has been read out, checked and founded as error, is read out again and found as error. • The error was found when reading out the counter value.	C
C2A02	Magenta Toner Cartridge EEPROM access error		C
C2A03	Yellow Toner Cartridge EEPROM access error		C
C2A04	Black Toner Cartridge EEPROM access error		C
C3301	Fusing Cooling Fan Motor/1's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C3302	Fusing Cooling Fan Motor/2's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B

Code	Item	Description	Rank
C3451	Heat. Heater Trouble	• The Heating Roller Thermistor/1 (TH1) and the Heating Roller Thermistor/2 (TH3) fails to raise a given degree of temperature even after the lapse of a given period of time after the Heating Roller Heater lamp/1 (H1) is turned ON. • The detected temperature of the Heating Roller Thermistor/1 (TH1) is lower for a given level of degree than one of the Fusing Pressure Roller Thermistor/1 (TH2) after the Front Door is opened or closed, the Main Power Switch is turned ON or TROUBLE RESET is implemented. • The counter value of zero cross signal input is not updated for a given period of time.	A
C3452	Press. Heater Trouble	• The Fusing Pressure Roller Thermistor/1 (TH2) fails to raise a given degree of temperature even after the lapse of a given period of time after the Fusing Pressure Heater Lamp (H3) is turned ON. • The detected temperature of the Fusing Pressure Roller Thermistor/1 (TH2) is lower for a given level of degree than one of the Heating Roller Thermistor/1 (TH1) after the Front Door is opened or closed, the Main Power Switch is turned ON or TROUBLE RESET is implemented.	A
C3461	New Fusing Unit New Article Release	• A new installation is not detected when a new Fusing Unit is installed.	B
C3751	Abnormal High Temp. (Heater)	• The temperatures of the Heating Roller Thermistor/1 (TH1) and the Heating Roller Thermistor/2 (TH3) are higher than a given level of degree for 1 second or more uninterruptedly. • The Heater Relay is OFF.	A
C3752	Abnormal High Temp. (Press)	• The temperature of the Fusing Pressure Roller Thermistor/1 (TH2) is higher than a given level of degree for 1 second or more uninterruptedly before the Heater temperature control starts. • The temperature of the Fusing Pressure Roller Thermistor/1 (TH2) is higher than a given level of degree for 1 second or more uninterruptedly after the Heater temperature control starts.	A
C3851	Abnormal Low Temp. (Heater)	• The temperature of the Heating Roller Thermistor/1 (TH1) is lower than a given level of degree for 1 second or more uninterruptedly during Ready mode, Low Power mode or printing. • The temperature of the Heating Roller Thermistor/2 (TH3) is lower than a given level of degree for 1 second or more uninterruptedly during Ready mode, Low Power mode or printing.	A
C3852	Abnormal Low Temp. (Press)	• The temperature of the Fusing Pressure Roller Thermistor /1 (TH2) is lower than a given level of degree for 1 second or more uninterruptedly during Ready mode, Low Power mode or printing.	A

Code	Item	Description	Rank
C3A01	Paper Stuck to Fuser Heater Roller	• The temperature of the Heating Roller Thermistor /1 (TH1) goes down by a given level of degree compared to the temperature of a given period of time before when the paper passes on the Timing Roller and blocks the Exit Sensor (PC2).	A
C3A02	Paper Stuck to Fuser Pressure Roller	• The temperature of the Fusing Pressure Roller Thermistor /1 (TH2) goes down by a given level of degree compared to the temperature of a given period of time before when the paper passes on the Timing Roller and blocks the Exit Sensor (PC2).	A
C4151	Polygon Motor/C failure to turn	• The Polygon motor fails to turn stably even after the lapse of a given period of time after activating the Polygon motor. • Motor Lock signal detects H for a given period time consecutively during the Polygon motor is rotating.	B
C4152	Polygon Motor/M failure to turn		B
C4153	Polygon Motor/Y failure to turn		B
C4154	Polygon Motor/K failure to turn		B
C4551	Laser malfunction (Cyan)	• SOS signal is not detected even after the lapse of a given period of time after staring the laser output. • SOS signal is not detected for a given period of time during printing or IDC sensor adjustment.	B
C4552	Laser malfunction (Magenta)		B
C4553	Laser malfunction (Yellow)		B
C4554	Laser malfunction (Black)		B
C4705	Image Output Time Out	• No image data is output from the MFP Control Board (PWB-MFP).	C
C4761	Compression hardware timeout	• The hardware involved with the compression function offered by the MFP Control Board (PWB-MFP) does not respond.	C
C4765	Extraction hardware timeout	• The hardware involved with the extraction function offered by the MFP Control Board (PWB-MFP) does not respond.	C
C4770	JBIG0 Error	• The MFP Control Board (PWB-MFP) is faulty.	C
C4771	JBIG1 Error		C
C4772	JBIG2 Error		C
C4773	JBIG3 Error		C
C4780	Compressor 0 command buffer stop failure		C
C4781	Compressor 1 command buffer stop failure		C
C4782	Compressor 2 command buffer stop failure		C
C4783	Compressor 3 command buffer stop failure		C
C5102	Main Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.	B
C5103	Main Motor turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.	B

Code	Item	Description	Rank
C5351	Power Supply Cooling Fan Motor/1's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5353	Cooling Fan Motor 2's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5354	Ozone Ventilation Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5357	Cooling Fan Motor/1's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C5358	Power Supply Cooling Fan Motor/2's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C6102	Drive Home Sensor malfunction	• The Scanner Home Sensor is unable to detect the Scanner located at its home position. • The Scanner Home Sensor is unable to detect a Scanner even when the Scanner Motor has been driven to move the Scanner over the maximum traveling distance. • The Scanner Home Sensor detects the Scanner when the Scanner has moved 5 mm from the position, at which it blocks the Scanner Home Sensor.	B
C6103	Slider Over Run	• The Scanner Home Sensor detects the Scanner at its home position during a period of time that begins with the time when a prescan command and a scan preparation command are executed and ends when a home return command is executed.	B
C6301	Scanner Cooling Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.	B
C6704	Image Input Time Out	• Image data is not input from the Image Processing Board (PWB-C) to the MFP Control Board (PWB-MFP).	C
C6751	CCD clamp/gain adjustment failure	• The adjustment value is 0 or 255 during a CCD clamp adjustment. • The peak value of the output data is 64 or less during a CCD gain adjustment.	B
C9401	Exposure Lamp's failure to turn ON	• The output from the CCD Sensor is a predetermined value or less during CCD Sensor gain adjustment.	A
C9402	Exposure Lamp turning ON at abnormal timing	• The average output value of the CCD Sensor with the Scanner at its standby position is a predetermined value or more at the end of a scan job.	A
CA051	Standard controller configuration failure	• The controller of the MFP Control Board (PWB-MFP) is faulty.	C
CA052	Controller hardware error	• A controller hardware error is detected in the network I/F.	C

Code	Item	Description	Rank
CA053	Controller start failure	• A controller start failure is detected in the controller interface.	C
CB001	FAX Board Error 1	☞ See FK-502 Service Manual.	C
CB002	FAX Board Error 2		C
CB003	FAX Board Error 3		C
CB051	FAX Board mount failure 1		C
CB052	FAX Board mount failure 2		C
CB110	FAX Driver Error: Instance Generation Error or Observer Registration Error		C
CB111	FAX Driver Error: Configuration Space Initialization NG		C
CB112	FAX Driver Error: Semaphore Acquisition, Release Error		C
CB113	FAX Driver Error: Sequence Error among Main Body Tasks		C
CB114	FAX Driver Error: Message Queue Control Error		C
CB115	FAX Driver Error: Main Body - Sequence Error among FAX Boards		C
CB116	FAX Driver Error: FAX Board Nonresponse (Nonresponse after Initialization)		C
CB117	FAX Driver Error: ACK Waiting Timeout Error		C
CB118	FAX Driver Error: Receiving Undefined Frame		C
CB119	FAX Driver Error: DMA Transfer Error		C
CB120	JC Soft Error		C
CB122	Device Error (GA LOCAL SRAM)		C
CB123	Device Error (DRAM)		C
CB125	Device Error (GA)		C
CB126	Timeout Error due to Nonresponse from DC during Suspension Process		C
CB127	Timeout Error due to Nonresponse from CC during Suspension Process		C
CB128	Timeout Error due to Nonresponse from LINE during Suspension Process		C
CB129	Timeout Error due to Nonresponse from File System/File Driver during Suspension Process		C

Code	Item	Description	Rank
CB130	MIF Driver Error: Driver Soft Error	☞ See FK-502 Service Manual.	C
CB131	MIF Driver Error: Reception Frame Length Error from Main		C
CB132	MIF Driver Error: Reception Frame Header Error from Main		C
CB133	MIF Driver Error: 232C i/f Sequence Error		C
CB134	MIF Driver Error: DPRAM i/f Sequence Error		C
CB135	MIF Driver Error: DPRAM CTL/ STL Register Error		C
CB136	MIF Driver Error: AKC Waiting Timeout		C
CB137	MIF Driver Error: DPRAM RESET Reception		C
CB140	MSG I/F Error with JC		C
CB141	I/F Error with Main: I/F Error with Driver		C
CB142	I/F Error with Main: Undefined Command Reception		C
CB143	I/F Error with Main: Command Frame Length Error		C
CB144	I/F Error with Main: Command Parameter Length Error		C
CB145	I/F Error with Main: Undefined Parameter		C
CB146	I/F Error with Main: Command/ Response Sequence Error		C
CB150	Line Control: External Class Instance Acquisition Error		C
CB151	Line Control: Job Start Error (Starting Job Parameter Error/ Child Job Generation Error)		C
CB152	Line Control: Doc Access Error (Report Buf Access Error)		C
CB153	Line Control: Response Wait Timeout from External Task		C
CB154	Line Control: Internal Que Table Control Error (create/enque/ deque)		C
CB160	1 Destination Control: Instance Generation Error		C
CB161	1 Destination Control: Timeout Error		C
CB162	1 Destination Control: Interface Error		C

Code	Item	Description	Rank
CB163	1 Destination Control: Message Que Control Error	☞ See FK-502 Service Manual.	C
CB164	1 Destination Control: Semaphore Acquisition Release Error		C
CB165	1 Destination Control: Observer Registration Error		C
CB166	1 Destination Control: Reception Resource Check Error		C
CB167	1 Destination Control: Deployment Error of Sending Image Information		C
CB168	1 Destination Control: Serialization Error of Receiving Image		C
CB169	1 Destination Control: Access Error to Quick Memory Data		C
CB170	Page Control: Internal Que Table Control Error (create/enque/deque)		C
CB171	Page Control: Instance Generation Error		C
CB172	Page Control: Timeout Error		C
CB173	Page Control: Interface Error		C
CB174	Page Control: Semaphore Acquisition Release Error		C
CB175	Page Control: Observer Registration Error		C
CB176	Page Control: Unable to Check TTI Domain		C
CB177	Page Control: Error Return from TTI Rasterizer		C
CB178	Page Control: Receiving Job Generation Error		C
CB185	Page Control: Receiving Data Size Logic Error (Receiving Data are not Multiples of DotLine)		C
CB186	Page Control: ImageBuf Acquisition (alloc) Error		C
CB187	Page Control: Error Return from Compressor		C
CB188	Page Control: BandBuf Control Error (newInstance/get/free)		C
CC001	Vendor connection failure	• It is detected that communications with the vendor are interrupted for a given period of time or more with “Installed” selected for the setting of vendor installation.	C
CC151	ROM contents error upon startup (MSC)	• A fault is detected in a sequence of ROM contents check of the MSC (PWB-MFP) during starting	C
CC152	ROM contents error upon startup (Scanner)	• A fault is detected in a sequence of ROM contents check of the PWB-C during starting.	C

Code	Item	Description	Rank
CC153	ROM contents error upon startup (PRT)	• A fault is detected in a sequence of ROM contents check of the Mechanical Control Board (PWB-M) during starting.	C
CC154	ROM contents error upon startup (PH)	• A fault is detected in a sequence of ROM contents check of the PH Interface Board (PWB-D) during starting.	C
CC163	ROM contents error (PRT)	• The wrong model of firmware is detected in the engine during the initial connection to the engine is being checked.	C
CD002	JOB RAM save error	• The error in save of JOB data to the Memory/ Hard Disk and its read error are detected.	C
CD004	Hard disk access error	• Unable to communicate between the hard disk and MFP Control Board (PWB-MFP).	C
CD005	Hard Disk Error 1	• Hard disk is faulty.	C
CD006	Hard Disk Error 2		C
CD007	Hard Disk Error 3		C
CD008	Hard Disk Error 4		C
CD009	Hard Disk Error 5		C
CD00A	Hard Disk Error 6		C
CD00B	Hard Disk Error 7		C
CD00C	Hard Disk Error 8		C
CD00D	Hard Disk Error 9		C
CD00E	Hard Disk Error A		C
CD00F	Hard disk data transfer error	• Data transfer from the hard disk is faulty.	C
CD010	Hard disk unformat	• Unformatted hard disk is connected.	C
CD011	Hard disk specifications error	• A hard disk that falls outside the specifications is connected.	C
CD012	Encryption ASIC setting error	• Initialization error of the encrypted ASIC is detected during the machine is starting.	C
CD013	Encryption ASIC mounting error	• The faulty of the installation of encrypted ASIC is detected during the machine is starting.	C
CD2XX	Trouble related to Security	• Contact the responsible people of KONIKA MINOTLTA before taking some countermeasures.	-
CDCXX	Trouble related to Security	• Contact the responsible people of KONIKA MINOTLTA before taking some countermeasures.	-
CE001	Abnormal message queue	• MFP Control Board (PWB-MFP) is faulty.	
CE002	Message and Method parameter failure		C
CE003	Task error		C
CE004	Event error		C
CE005	Memory access error		C
CE006	Header access error		C
CE007	DIMM initialize error		C
CEEE1	MSC undefined malfunction occurring	• An undefined malfunction occurs in the MSC of the MFP Control Board (PWB-MFP).	C

Code	Item	Description	Rank
CEEE2	Scanner Section undefined malfunction	• An undefined malfunction occurs in the Scanner Section.	C
CEEE3	Engine Section undefined malfunction	• An undefined malfunction occurs in the Engine Section (PWB-M, etc.).	C

- The machine displays an abort code (CFXXX) on the Touch Panel as it becomes unable to process tasks properly through its software control.
- When the system program is aborted, check the electrical component, unit, option, and connection relating to the specific type of the abort condition.

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF001	CT_SingleList Table Abnormal	• MFP Control Board	C
CF002	CT_DoubleList Table Abnormal	• MFP Control Board	C
CF003	CT_DoubleList Table Abnormal	• MFP Control Board	C
CF004	CT_Queue Full Abnormal	• MFP Control Board	C
CF011	ArrayLink Abnormal	• MFP Control Board	C
CF012	FAT Link Abnormal	• MFP Control Board	C
CF013	File Size Abnormal	• MFP Control Board	C
CF021	setDelayMessage Table OverFlow	• MFP Control Board	C
CF022	procSetBootParamTcpipAddress() injustice	• MFP Control Board	C
CF023	MsgQue OverFlow	• MFP Control Board	C
CF031	getJobPageToIPE() page number injustice	• MFP Control Board	C
CF032	getJobHDDPageToIPE() page number injustice	• MFP Control Board	C
CF033	setDivTbl() limitation over	• MFP Control Board	C
CF034	HDDQUEUE Over Flow	• MFP Control Board	C
CF041	getAPPPtrFromAPPID() abnormal	• MFP Control Board	C
CF042	getAPPIndexFromAPPID() abnormal	• MFP Control Board	C
CF051	CC_InputPageEntry:operator[] page injustice	• MFP Control Board	C
CF061	IdeCommand_Set() status Abnormal	• MFP Control Board	C
CF062	IdeCommand_Set() parameter Abnormal	• MFP Control Board	C
CF091	PCI ASIC1 ERROR	• MFP Control Board	C
CF092	PCI ASIC2 ERROR	• MFP Control Board	C
CF093	PCI ASIC4 ERROR	• MFP Control Board	C
CF101	SCAN TIME OUT	• MFP Control Board	C
CF111	Compress TIME OUT	• MFP Control Board	C
CF112	Compress Table OverFlow	• MFP Control Board	C
CF113	Compress Table check	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF121	Expand TIME OUT	• MFP Control Board	C
CF122	Expand Table OverFlow	• MFP Control Board	C
CF123	Expand ExpandLine Abnormal	• MFP Control Board	C
CF131	Print TIME OUT	• MFP Control Board	C
CF201	startIRReadAnd Compress()Sequence	• MFP Control Board	C
CF202	startWorkSave()Sequence Abnormal	• MFP Control Board	C
CF203	convAPItoIJCParameter()page Abnormal	• MFP Control Board	C
CF204	calcCompresserUse()CmpEx-pID Abnormal	• MFP Control Board	C
CF211	setParameterBandColorPlane() Table OverFlow	• MFP Control Board	C
CF212	convAPItoIJCParameter()page Abnormal	• MFP Control Board	C
CF213	calcExpandUse() CmpExpID Abnormal	• MFP Control Board	C
CF221	startPrintOutput outputsize zero	• MFP Control Board	C
CF222	Next request comes during processing of startPrintOutput ()	• MFP Control Board	C
CF223	Next request comes during processing of startWorkLoad-Output ()	• MFP Control Board	C
CF300	IR Bus Check Timeout	• MFP Control Board	C
CF411	Parity error	• MFP Control Board	C
CF421	Overrun error	• MFP Control Board	C
CF431	Parity error + Overrun error	• MFP Control Board	C
CF441	Framing error	• MFP Control Board	C
CF451	Parity error + Framing error	• MFP Control Board	C
CF461	Overrun error + Framing error	• MFP Control Board	C
CF471	Parity error + Overrun error + Framing error	• MFP Control Board	C
CF412	Parity error	• MFP Control Board	C
CF422	Overrun error	• MFP Control Board	C
CF432	Parity error + Overrun error	• MFP Control Board	C
CF442	Framing error	• MFP Control Board	C
CF452	Parity error + Framing error	• MFP Control Board	C
CF462	Overrun error + Framing error	• MFP Control Board	C
CF472	Parity error + Overrun error + Framing error	• MFP Control Board	C
CF510	Parity error	• MFP Control Board	C
CF520	Framing error	• MFP Control Board	C
CF530	Parity error + Framing error	• MFP Control Board	C
CF540	Overrun error	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF550	Parity error + Overrun error	• MFP Control Board	C
CF560	Overrun error + Framing error	• MFP Control Board	C
CF570	Parity error + Overrun error + Framing error	• MFP Control Board	C
CF580	Frame distortion of ADF	• MFP Control Board	C
CF600	Report receiving of print start that is out of sequence	• MFP Control Board/Engine	C
CF601	Report receiving of paper feeding that is out of sequence	• MFP Control Board/Engine	C
CF604	Outside IF/Command Queue	• MFP Control Board	C
CF614	“Output sequence” Queue	• MFP Control Board	C
CF624	Panel LCD date Queue	• MFP Control Board	C
CF704	Common data “Delete-waiting HDD accumulated job ID” Queue	• MFP Control Board	C
CF714	IRC/Command Queue	• MFP Control Board	C
CF724	Engine/Command Queue	• MFP Control Board/Engine	C
CF734	Panel/Command Queue	• MFP Control Board/Control Panel	C
CF744	File Memory Transfer start-waiting Command Queue	• MFP Control Board	C
CF754	File Memory Compression requesting Command Queue	• MFP Control Board	C
CF764	Panel instruction delete job Queue	• MFP Control Board	C
CF774	Warning delete job Queue	• MFP Control Board	C
CF784	Application instruction delete job Queue	• MFP Control Board	C
CF794	Output page information for Duplex back side Queue	• MFP Control Board	C
CF7A4	Paper feed completion output pate information Queue	• MFP Control Board	C
CF7B4	Exposure compaction output page information Queue	• MFP Control Board	C
CF7C4	Pre-discharge completion output page information Queue	• MFP Control Board	C
CF7D4	Touch panel coordinate data Queue	• MFP Control Board	C
CF7E4	Direct Key data Queue	• MFP Control Board	C
CF802	SIO Sending Port...ENG	• MFP Control Board/Engine	C
CF806	SIO Sending Port...IRC	• MFP Control Board	C
CF812	SIO Sending Port...Fiery	• MFP Control Board	C
CF815	SIO Sending Port... PIC/PIC Terminal	• MFP Control Board	C
CF8ED	SIO Sending Port...EPNet	• MFP Control Board	C
CF902	SIO Receiving Port...ENG	• MFP Control Board/Engine	C
CF906	SIO Receiving Port...IRC	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CF912	SIO Receiving Port...Fiery	• MFP Control Board	C
CF915	SIO Receiving Port... PIC/PIC Terminal	• MFP Control Board	C
CF9ED	SIO Receiving Port...EPNet	• MFP Control Board	C
CFA01	getOneImgTransInfoFromTh() No applied thread	• MFP Control Board	C
CFA02	chkEnableAllocExec() default error	• MFP Control Board	C
CFA03	setTransBandAndRepeatNum() error	• MFP Control Board	C
CFA04	Application ID error	• MFP Control Board	C
CFA05	Thread selection image processing mode error	• MFP Control Board	C
CFA06	getOneImgIndexNumFromTh() No applied thread	• MFP Control Board	C
CFA07	setBufBandFromOut() No applied thread	• MFP Control Board	C
CFA08	chkStartOutput() No applied thread	• MFP Control Board	C
CFA09	rptReleaseMemResultACS() No applied thread	• MFP Control Board	C
CFA10	rptEndBandTrans() No applied thread	• MFP Control Board	C
CFA11	cancelTransExec() No applied thread	• MFP Control Board	C
CFA12	CC_ImgTransInfo:allocTransIndex	• MFP Control Board	C
CFA13	CC_MultiThreadProfile:rptBuf2 MemClrEnd	• MFP Control Board	C
CFA21	Outside image input start	• MFP Control Board	C
CFA22	Inside image outside output start	• MFP Control Board	C
CFA23	Engine Input start	• MFP Control Board	C
CFA24	Buffer memory -> File memory transfer Start	• MFP Control Board	C
CFA25	BTC compression/CMM start	• MFP Control Board	C
CFA26	Inside image PCIBridegDMA input/output start	• MFP Control Board	C
CFA27	File memory -> Buffer memory transfer Start	• MFP Control Board	C
CFA28	BTC extension start	• MFP Control Board	C
CFA29	JPEG compression start	• MFP Control Board	C
CFA30	JPEG extension start	• MFP Control Board	C
CFA31	Software resolution conversion start	• MFP Control Board	C
CFA32	Hardware resolution conversion start	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFA33	Software rotating processing start	• MFP Control Board	C
CFA34	Other Sequence malfunction	• MFP Control Board	C
CFA35	Buffer Array malfunction	• MFP Control Board	C
CFA36	Thread Service malfunction	• MFP Control Board	C
CFA37	Input image height 0	• MFP Control Board	C
CFA38	Output image width 0	• MFP Control Board	C
CFA41	pcbuf_exinput.cpp,h	• MFP Control Board	C
CFA42	pcbuf_inout.cpp,h	• MFP Control Board	C
CFA43	pcbuf_exoutput.cpp,h	• MFP Control Board	C
CFA61	DMA A	• MFP Control Board	C
CFA62	DMA B	• MFP Control Board	C
CFA63	DMA C	• MFP Control Board	C
CFA64	DMA D	• MFP Control Board	C
CFA65	DMA E	• MFP Control Board	C
CFA66	DMA F	• MFP Control Board	C
CFA67	DMA G	• MFP Control Board	C
CFA68	DMA H	• MFP Control Board	C
CFA69	DMA I	• MFP Control Board	C
CFA70	DMA J	• MFP Control Board	C
CFA71	Interruption	• MFP Control Board	C
CFA72	Common register setting	• MFP Control Board	C
CFA73	PCIBridgeDMA	• MFP Control Board	C
CFA74	BTC compression/Extension device	• MFP Control Board	C
CFA75	CMM	• MFP Control Board	C
CFB52	DMA_A error interruption	• MFP Control Board	C
CFB53	DMA_B error interruption	• MFP Control Board	C
CFB54	DMA_C error interruption	• MFP Control Board	C
CFB55	DMA_D 0 error interruption	• MFP Control Board/Engine	C
CFB56	DMA_D 1 error interruption	• MFP Control Board/Engine	C
CFB57	DMA_D 2 error interruption	• MFP Control Board/Engine	C
CFB58	DMA_D 3 error interruption	• MFP Control Board/Engine	C
CFB59	DMA_E error interruption	• MFP Control Board	C
CFB5A	DMA_F error interruption	• MFP Control Board	C
CFB5B	DMA_G error interruption	• MFP Control Board	C
CFB5C	DMA_H error interruption	• MFP Control Board	C
CFB5D	DMA_I error interruption	• MFP Control Board	C
CFB5E	DMA_J error interruption	• MFP Control Board/Engine	C
CFB5F	Watch Dog Timer Error interruption	• MFP Control Board	C
CFB60	PCI slave error interruption	• MFP Control Board/FAX Board/Local I/F Board	C
CFB61	Local bus error interruption	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFB6E	Underrun at DMA_D 0 image output interface 1	• MFP Control Board	C
CFB6F	Underrun at DMA_D 1 image output interface 1	• MFP Control Board	C
CFB70	Underrun at DMA_D 2 image output interface 1	• MFP Control Board	C
CFB71	Underrun at DMA_D 3 image output interface 1	• MFP Control Board	C
CFB72	Underrun at DMA_G image output interface 1	• MFP Control Board	C
CFB73	Overflow at DMA_A/B image output interface 1	• MFP Control Board	C
CFB74	Underrun at DMA_F ASIC 1 image output interface	• MFP Control Board	C
CFB75	Overflow at DMA_C ASIC 1 image input interface	• MFP Control Board	C
CFB76	Target abort	• MFP Control Board	C
CFB77	Master abort	• MFP Control Board	C
CFB78	Forced stoppage	• MFP Control Board	C
CFB79	Retry error detection of PCI master	• MFP Control Board	C
CFB7A	Master read data parity error	• MFP Control Board	C
CFB7B	Master write data parity error	• MFP Control Board	C
CFB7C	System error	• MFP Control Board	C
CFB7D	Slave read data parity error	• MFP Control Board	C
CFB7E	Slave write data parity error	• MFP Control Board	C
CFB7F	Address parity error	• MFP Control Board	C
CFB80	DMA-M error interruption	• MFP Control Board	C
CFB81	DMA-N0 error interruption	• MFP Control Board	C
CFB82	DMA-N1 error interruption	• MFP Control Board	C
CFB83	DMA-N2 error interruption	• MFP Control Board	C
CFB84	DMA-N3 error interruption	• MFP Control Board	C
CFC01	Color Number faulty	• MFP Control Board	C
CFC02	Thread Sequence malfunction	• MFP Control Board	C
CFC03	Thread Service Sequence malfunction	• MFP Control Board	C
CFC04	Thread Message Q malfunction	• MFP Control Board	C
CFC12	Output of output buffer 2 surpasses clear.	• MFP Control Board	C
CFC13	Image transfer control information acquisition malfunction	• MFP Control Board	C
CFD00	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A0	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFD01	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A1	• MFP Control Board	C
CFD02	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A2	• MFP Control Board	C
CFD03	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_B0	• MFP Control Board	C
CFD04	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_B1	• MFP Control Board	C
CFD05	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_B2	• MFP Control Board	C
CFD06	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_C	• MFP Control Board	C
CFD07	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_D	• MFP Control Board	C
CFD08	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_E	• MFP Control Board	C
CFD09	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_F	• MFP Control Board	C
CFD0A	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_G	• MFP Control Board	C
CFD0B	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_H0	• MFP Control Board	C
CFD0C	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_H1	• MFP Control Board	C
CFD0D	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_H2	• MFP Control Board	C
CFD0E	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA-I	• MFP Control Board	C
CFD0F	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA-J	• MFP Control Board/Engine	C
CFD10	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA PCI Bridge	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFD11	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA 19 ASIC1	• MFP Control Board	C
CFD12	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA JPEG	• MFP Control Board	C
CFD13	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA NO	• MFP Control Board	C
CFD15	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA-N	• MFP Control Board	C
CFE00	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA_A0	• MFP Control Board	C
CFE01	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_A1	• MFP Control Board	C
CFE02	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_A2	• MFP Control Board	C
CFE03	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_B0	• MFP Control Board	C
CFE04	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_B1	• MFP Control Board	C
CFE05	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_B2	• MFP Control Board	C
CFE06	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_C	• MFP Control Board	C
CFE07	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_D	• MFP Control Board	C
CFE08	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_E	• MFP Control Board	C
CFE09	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_F	• MFP Control Board	C
CFE0A	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_G	• MFP Control Board	C
CFE0B	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_H0	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFE0C	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_H1	• MFP Control Board	C
CFE0D	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA_H2	• MFP Control Board	C
CFE0E	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA-I	• MFP Control Board	C
CFE0F	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA-J	• MFP Control Board/Engine	C
CFE10	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMAPCI Bridge	• MFP Control Board	C
CFE11	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA19 ASIC1	• MFP Control Board	C
CFE12	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA JPEG	• MFP Control Board	C
CFE13	ASIC10 Timeout Number of DMA under operation and transfer completion line≠0: DMA NO	• MFP Control Board	C
CFE15	ASIC10 Timeout Number of DMA under operation and transfer completion line=0: DMA-N	• MFP Control Board	C
CFF00	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_A0	• MFP Control Board	C
CFF01	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_A1	• MFP Control Board	C
CFF02	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_A2	• MFP Control Board	C
CFF03	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_B0	• MFP Control Board	C
CFF04	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_B1	• MFP Control Board	C
CFF05	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_B2	• MFP Control Board	C
CFF06	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_C	• MFP Control Board	C

Code	Item	Relevant Electrical Components, Units, and Options	Rank
CFF07	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_D	• MFP Control Board	C
CFF08	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_E	• MFP Control Board	C
CFF09	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_F	• MFP Control Board	C
CFF0A	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_G	• MFP Control Board	C
CFF0B	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_H0	• MFP Control Board	C
CFF0C	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_H1	• MFP Control Board	C
CFF0D	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA_H2	• MFP Control Board	C
CFF0E	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA-I	• MFP Control Board	C
CFF0F	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA-J	• MFP Control Board	C
CFF10	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA PCI Bridge	• MFP Control Board	C
CFF11	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA 19 ASIC1	• MFP Control Board	C
CFF12	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA JPEG	• MFP Control Board	C
CFF13	ASIC10 Timeout Waiting state of DMA band preparation register setting:DMA NO	• MFP Control Board	C
CFF15	ASIC10 Timeout Number of DMA band preparation register setting: DMA-N	• MFP Control Board	C

16.4 How to reset

- Different malfunction resetting procedures apply depending on the rank of the trouble code.

* List of Malfunction Resetting Procedures

Trouble Code Rank	Resetting Procedures
Rank A	• Trouble Reset ☞ For details of Trouble Reset, see Adjustment/ Setting.
Rank B	• Opening/Closing the front door or Trouble Reset
Rank C	• Turning sub power switch OFF/ON

16.5 Solution

16.5.1 C0204: Tray 2 Elevator failure

Relevant Electrical Parts	
Tray 2 Lift-Up Sensor (PC7-PC) Tray 2 Lift-Up Motor (M3-PC)	Tray 2 Control Board (PWB-Z-PC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M3-PC connector for proper connection and correct as necessary.	—	—
2	Check the connector of M3-PC for proper drive coupling and correct as necessary.	—	—
3	PC7-PC I/O check, Sensor check	PWB-Z-PC PJ6Z PC-3 (ON)	S-24
4	M3-PC operation check	PWB-Z-PC PJ4Z PC-4 to 5	M-27
5	Change PWB-Z-PC	—	—

16.5.2 C0211: Manual Tray Rise Descent Error

Relevant Electrical Parts	
Bypass Lift-Up Sensor (PC14) Tray 2 Vertical Transport Motor (M2-PC)	Tray 2 Control Board (PWB-Z-PC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M2-PC connector for proper connection and correct as necessary.	—	—
2	Check the connector of M2-PC for proper drive coupling and correct as necessary.	—	—
3	PC14 I/O check, Sensor check	PWB-M CNTRY1-10 (ON)	C-8 to 9
4	M2-PC operation check	PWB-Z-PC PJ5Z PC-5 to 8	M-25
5	Change PWB-Z-PC	—	—

16.5.3 C0301: Suction Fan Motor's failure to turn

Relevant Electrical Parts	
Mechanical Control Board (PWB-M)	Right Door Assy

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Change the Right Door Assy	—	—
3	Change PWB-M	—	—

16.5.4 C2151: 2nd Image Transfer Roller Separation

Relevant Electrical Parts	
Mechanical Control Board (PWB-M)	Right Door Assy

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Change the Right Door Assy	—	—
3	Change PWB-M	—	—

16.5.5 C2152: Transfer Belt Separation

Relevant Electrical Parts	
1st Image Transfer Pressure/Retraction Position Sensor (PC6) 1st Image Transfer Pressure/Retraction Clutch (CL3)	Main Motor (M1) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	PC6 I/O check, Sensor check	—	—
3	CL3 operation check	PWB-M CNDM1-11 (ON)	L-2
4	M1 operation check	PWB-M CNDM1-5 (REM) PWB-M CNDM1-8 (LOCK)	L-2
5	Change PWB-M	—	—

16.5.6 C2253: Color PC Drum Motor's failure to turn

Relevant Electrical Parts	
Color PC Drum Motor (M2)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-M connector for proper connection and correct as necessary.	—	—
4	M2 operation check (C0018)	PWB-M CNDM3-5 (REM) PWB-M CNDM3-8 (LOCK)	C-21
5	Change PWB-M	—	—

16.5.7 C2254: Color PC Drum Motor's turning at abnormal timing

Relevant Electrical Parts	
Color PC Drum Motor (M2)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M2 operation check	PWB-M CNDM3-5 (REM) PWB-M CNDM3-8 (LOCK)	C-21
2	Change PWB-M	—	—

16.5.8 C2255: Color Developing Motor's failure to turn

Relevant Electrical Parts	
Color Developing Motor (M3)	DC Power Supply (PU1) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PU1 connector for proper connection and correct as necessary.	—	—
4	Check the PWB-M connector for proper connection and correct as necessary.	—	—
5	M3 operation check	PWB-M CNDM2-5 (REM) PWB-M CNDM2-8 (LOCK)	C-20 to 21
6	Change PU1	—	—
7	Change PWB-M	—	—

16.5.9 C2256: Color Developing Motor's turning at abnormal timing

Relevant Electrical Parts	
Color Developing Motor (M3)	DC Power Supply (PU1) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M3 operation check	PWB-M CNDM2-5 (REM) PWB-M CNDM2-8 (LOCK)	C-20 to 21
2	Change PU1	—	—
3	Change PWB-M	—	—

16.5.10 C2451: Transfer Cleaner Unit New Article Release

Relevant Electrical Parts	
Mechanical Control Board (PWB-M)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Reinstall Unit	—	—
2	Change PWB-M	—	—

16.5.11 C2551: Abnormally low toner density detected Cyan TCR Sensor

16.5.12 C2553: Abnormally low toner density detected Magenta TCR Sensor

16.5.13 C2555: Abnormally low toner density detected Yellow TCR Sensor

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Toner Supply Motor C/K (M6) Toner Supply Motor Y/M (M7)	Mechanical Control Board (PWB-M) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	Clean the TCR Sensor window on the underside of the Imaging Unit if dirty	—	—
3	M6, M7 operation check	PWB-M CNDM2-10 to 13 (M6) PWB-M CNDM3-10 to 13 (M7)	C-20 C-21
4	Reinstall Imaging Unit	—	—
5	Change Imaging Unit	—	—
6	Change PWB-M	—	—
7	Change PWB-MFP.	—	—

16.5.14 C2552: Abnormally high toner density detected Cyan TCR Sensor

16.5.15 C2554: Abnormally high toner density detected Magenta TCR Sensor

16.5.16 C2556: Abnormally high toner density detected Yellow TCR Sensor

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y	Mechanical Control Board (PWB-M) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the TCR Sensor window on the underside of the Imaging Unit if dirty	—	—
2	Reinstall Imaging Unit	—	—
3	Change Imaging Unit	—	—
4	Change PWB-M	—	—
5	Change PWB-MFP	—	—

16.5.17 C2557: Abnormally low toner density detected Black TCR Sensor

Relevant Electrical Parts	
Imaging Unit /K Toner Supply Motor C/K (M7)	Mechanical Control Board (PWB-M) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	Clean the TCR Sensor window on the underside of the Imaging Unit if dirty	—	—
3	M7 operation check	PWB-M CNDM3-10 to 13	C-21
4	Reinstall Imaging Unit	—	—
5	Change Imaging Unit /K	—	—
6	Change PWB-M	—	—
7	Change PWB-MFP.	—	—

16.5.18 C2558: Abnormally high toner density detected Black TCR Sensor

Relevant Electrical Parts	
Imaging Unit /K	Mechanical Control Board (PWB-M) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the TCR connection on the underside of the Imaging Unit if faulty.	—	—
2	Reinstall Imaging Unit	—	—
3	Change Imaging Unit	—	—
4	Change PWB-M	—	—
5	Change PWB-MFP	—	—

16.5.19 C2559: Cyan TCR Sensor adjustment failure

16.5.20 C255A: Magenta TCR Sensor adjustment failure

16.5.21 C255B: Yellow TCR Sensor adjustment failure

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Toner Supply Motor Y/M (M6) Toner Supply Motor C/K (M7)	Mechanical Control Board (PWB-M) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the TCR Sensor window on the underside of the Imaging Unit if dirty	—	—
2	M6, M7 operation check	PWB-M CNDM2-10 to 13 (M6) PWB-M CNDM3-10 to 13 (M7)	C-20 C-21
3	Reinstall Imaging Unit	—	—
4	Change Imaging Unit	—	—
5	Change PWB-M	—	—
6	Change PWB-MFP	—	—

16.5.22 C255C: Black TCR Sensor adjustment failure

Relevant Electrical Parts	
Imaging Unit /K Toner Supply Motor C/K (M7)	Mechanical Control Board (PWB-M) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean or correct each contact of the Imaging Unit if faulty.	—	—
2	M7 operation check	PWB-M CNDM3-10 to 13	C-21
3	Reinstall Imaging Unit /K	—	—
4	Change Imaging Unit /K	—	—
5	Change PWB-M	—	—
6	Change PWB-MFP	—	—

16.5.23 C2651: Cyan Imaging Unit EEPROM access error

16.5.24 C2652: Magenta Imaging Unit EEPROM access error

16.5.25 C2653: Yellow Imaging Unit EEPROM access error

16.5.26 C2654: Black Imaging Unit EEPROM access error

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Imaging Unit /K	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the connection between the Imaging Unit and the machine if dirty	—	—
2	Reinstall Imaging Unit	—	—
3	Change Imaging Unit	—	—
4	Change PWB-M	—	—

16.5.27 C2A01: Cyan Toner Cartridge EEPROM access error

16.5.28 C2A02: Yellow Toner Cartridge EEPROM access error

16.5.29 C2A03: Magenta Toner Cartridge EEPROM access error

16.5.30 C2A04: Black Toner Cartridge EEPROM access error

Relevant Electrical Parts	
Toner Cartridge /C Toner Cartridge /M Toner Cartridge /Y Toner Cartridge /K	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the connection between the Toner Cartridge and the machine if dirty	—	—
2	Reinstall Toner Cartridge	—	—
3	Change Toner Cartridge	—	—
4	Change PWB-M	—	—

16.5.31 C3301: Fusing Cooling Fan Motor /1's failure to turn

Relevant Electrical Parts	
Fusing Cooling Fan Motor/1 (M11)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M11 operation check	PWB-M CNDM1-12 (ON) PWB-M CNDM1-14 (LOCK)	L-2
4	Change PWB-M	—	—

16.5.32 C3302: Fusing Cooling Fan Motor /2's failure to turn

Relevant Electrical Parts	
Fusing Cooling Fan Motor/2 (M13)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M13 operation check	PWB-M CNDM1-14 (ON) PWB-M CNDM1-17 (LOCK)	L-1
4	Change PWB-M	—	—

16.5.33 C3451: Heat. Heater Trouble

16.5.34 C3452: Press. Heater Trouble

16.5.35 C3751: Abnormal High Temp. (Heater)

16.5.36 C3752: Abnormal High Temp. (Press)

16.5.37 C3851: Abnormal Low Temp. (Heater)

16.5.38 C3852: Abnormal Low Temp. (Press)

Relevant Electrical Parts	
Fusing Unit	DC Power Supply (PU1) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Fusing Unit for correct installation (whether it is secured in position).	—	—
2	Check the Fusing Unit, PWB-M and PU1 for proper connection and correct or change as necessary.	—	—
3	Change Fusing Unit	—	—
4	Change PWB-M	—	—
5	Change PU1	—	—

16.5.39 C3461: Fusing Unit New Article Release

Relevant Electrical Parts	
Fusing Unit	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Fusing Unit for correct installation (whether it is secured in position).	—	—
2	Check the Fusing Unit, PWB-M for proper connection and correct or change as necessary.	—	—
3	Reinstall Fusing Unit	—	—
4	Change Fusing Unit	—	—
5	Change PWB-M	—	—

16.5.40 C3A01: Paper Stuck to Fuser Heater Roller

16.5.41 C3A02: Paper Stuck to Fuser Pressure Roller

Relevant Electrical Parts	
Fusing Unit Exit Sensor (PC2)	DC Power Supply (PU1) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Fusing Unit for correct installation (whether it is secured in position).	—	—
2	Check the Fusing Unit, PWB-M for proper connection and correct or change as necessary.	—	—
3	PC2 I/O check, Sensor check	PWB-M CNTH2-8 (ON)	C-13
4	Change Fusing Unit	—	—
5	Change PWB-M	—	—
6	Change PU1	—	—

16.5.42 C4151: Polygon Motor/C failure to turn

16.5.43 C4152: Polygon Motor/M failure to turn

16.5.44 C4153: Polygon Motor/Y failure to turn

16.5.45 C4154: Polygon Motor/K failure to turn

Relevant Electrical Parts	
PH Unit	PH Interface Board (PWB-D) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector for proper connection and correct as necessary.	—	—
2	Change PH Unit	—	—
3	Change PWB-D	—	—
4	Change PWB-M	—	—

16.5.46 C4551: Laser malfunction (Cyan)

16.5.47 C4552: Laser malfunction (Magenta)

16.5.48 C4553: Laser malfunction (Yellow)

16.5.49 C4554: Laser malfunction (Black)

Relevant Electrical Parts	
PH Unit	PH Interface Board (PWB-D) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector for proper connection and correct as necessary.	—	—
2	Change PH Unit	—	—
3	Change PWB-D	—	—
4	Change PWB-M	—	—

16.5.50 C4705: Image Output Time Out

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select [Service Mode] → [State Confirmation] → [Memory/HDD Adj.] → [Memory Bus Check] → [Memory→PRT].	—	—
2	Check the connectors on PWB-MFP for proper connection and correct as necessary.	—	—
3	Change PWB-MFP	—	—

16.5.51 C4761: Compression hardware timeout

16.5.52 C4765: Extraction hardware timeout

16.5.53 C4770: JBIG0 Error

16.5.54 C4771: JBIG1 Error

16.5.55 C4772: JBIG2 Error

16.5.56 C4773: JBIG3 Error

16.5.57 C4780: Compressor 0 command buffer stop failure

16.5.58 C4781: Compressor 1 command buffer stop failure

16.5.59 C4782: Compressor 2 command buffer stop failure

16.5.60 C4783: Compressor 3 command buffer stop failure

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	DIMM0 (Work0) DIMM1 (Work1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	When the error is displayed after the memory check, remove and insert the DIMM0 and DIMM1 again to recheck (C4765).	—	—
2	Change PWB-MFP	—	—

16.5.61 C5102: Main Motor's failure to turn

Relevant Electrical Parts	
Main Motor (M1)	Mechanical Control Board (PWB-M) DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check M1 for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-M connector for proper connection and correct as necessary.		
4	M1 operation check	PWB-M CNDM1-5 (REM) PWB-M CNDM1-8 (LOCK)	L-2
5	Change PWB-M	—	—
6	Change PU1	—	—

16.5.62 C5103: Main Motor Turning at abnormal timing

Relevant Electrical Parts	
Main Motor (M1)	Mechanical Control Board (PWB-M) DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M1 operation check	PWB-M CNDM1-5 (REM) PWB-M CNDM1-8 (LOCK)	L-2
2	Change PWB-M	—	—
3	Change PU1	—	—

16.5.63 C5351: Power Supply Cooling Fan Motor/1's failure to turn

Relevant Electrical Parts	
Power Supply Cooling Fan Motor/1 (M8)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M8 operation check	PWB-M CNLV3-2 (ON) PWB-M CNLV3-3 (LOCK)	C-25
4	Change PU1	—	—

16.5.64 C5353: Cooling Fan Motor 2's failure to turn

Relevant Electrical Parts	
Cooling Fan Motor/2 (M22)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M22 operation check	PWB-M CNR2FAN-4 (ON) PWB-M CNR2FAN-6 (LOCK)	L-3
4	Change PWB-M	—	—

16.5.65 C5354: Ozone Ventilation Fan Motor's failure to turn

Relevant Electrical Parts	
Ozone Ventilation Fan Motor (M14)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M14 operation check	PWB-M CNLP-9 (ON) PWB-M CNLP-11 (LOCK)	C-10
4	Change PWB-M	—	—

16.5.66 C5357: Cooling Fan Motor/1's failure to turn

Relevant Electrical Parts	
Cooling Fan Motor/1 (M12)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M12 operation check	PWB-M CNDM2-15 (ON) PWB-M CNDM2-16 (LOCK)	C-20
4	Change PWB-M	—	—

16.5.67 C5358: Power Supply Cooling Fan Motor/2's failure to turn

Relevant Electrical Parts	
Power Supply Cooling Fan Motor/2 (M9)	Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M9 operation check	PWB-M CNLP-15 (ON) PWB-M CNLP-16 (LOCK)	C-9
4	Change PWB-M	—	—

16.5.68 C6102: Drive Home Sensor malfunction

16.5.69 C6103: Slider Over Run

Relevant Electrical Parts	
Scanner Home Sensor (PC201) Scanner Motor (M201)	Scanner Motor Drive Board (PWB-IC) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct or change the Scanner drive (cable, pulley, gear, belt) if it is faulty.	—	—
2	Correct the Scanner Motor set screw if loose.	—	—
3	Adjust [Image Position Leading Edge] and [Feed Direction Adjustment].	—	—
4	Check the PC201, M201, PWB-IC and PWB-C connector for proper connection and correct as necessary.	—	—
5	PC201 I/O check, Sensor check	PWB-C PJ11C-8 (ON)	T-13
6	M201 operation check	PWB-IC PJ3IC-1 (REM) PWB-IC PJ3IC-3 (LOCK)	Y-7
7	Change PWB-IC.	—	—
8	Change PWB-C.	—	—

16.5.70 C6301: Scanner Cooling Fan Motor's failure to turn

Relevant Electrical Parts	
Scanner Cooling Fan Motor (M202)	Image Processing Board (PWB-C) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M202 operation check	PWB-C PJ81C-2 (REM) PWB-C PJ81C-3 (LOCK)	T-10 to 11
4	Change PWB-C	—	—
5	Change PWB-M	—	—

16.5.71 C6704: Image Input Time Out

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select [Service Mode] → [State Confirmation] → [Memory/HDD Adj.] → [Memory Bus Check] → [Scanner→Memory].	—	—
2	Check the connectors between PWB-C and PWB-MFP for proper connection and correct as necessary.	—	—
3	Change PWB-MFP	—	—
4	Change PWB-C	—	—

16.5.72 C6751: CCD clamp/gain adjustment failure

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the harness connection between PWB-A and PWB-C if faulty.	—	—
2	Check for possible extraneous light and correct as necessary.	—	—
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty	—	—
4	Correct reflective mirror of the Scanner if faulty, or change Scanner.	—	—
5	Change PWB-A	—	—
6	Change PWB-C	—	—

16.5.73 C9401: Exposure Lamp's failure to turn ON

16.5.74 C9402: Exposure Lamp turning ON at abnormal timing

Relevant Electrical Parts	
Scanner Assy Flat Cable	Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the flat cable for proper connection and correct or change as necessary.	—	—
2	Change Scanner Assy	—	—
3	Change PWB-C	—	—

16.5.75 CA051: Standard Controller configuration failure

16.5.76 CA052:Controller hardware error

16.5.77 CA053: Controller start failure

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check to see if the following setting has been correctly made: [Service Mode] → [System 2] → [Image Controller Setting]. If changing the setting, turn OFF the Main Power SW and turn it ON again after 10 seconds or more.	—	—
2	Check the connectors of the MFP Control Board (PWB-MFP) for proper connection and correct as necessary.	—	—
3	Change PWB-MFP	—	—

16.5.78 CC001: Vendor connection failure

Relevant Electrical Parts	
Mechanical Control Board (PWB-M)	Coin Vendor (Japan) Coin Vendor Kit (North America, Europe)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Vendor connector for proper connection and correct as necessary.	—	—
2	Check the PWB-M connector for proper connection and correct as necessary.	—	—
3	Change PWB-M	—	—

16.5.79 CC151: ROM contents error upon startup (MSC)

16.5.80 CC152: ROM contents error upon startup (Scanner)

16.5.81 CC153: ROM contents error upon startup (PRT)

16.5.82 CC154: ROM contents error upon startup (PH)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the ROM version.	—	—
2	Rewrite firmware using the Compact Flash card.	—	—
3	Replace the appropriate board.	—	—

16.5.83 CC163: ROM contents error (PRT)

Relevant Electrical Parts	
Mechanical Control Board (PWB-M)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the ROM version.	—	—
2	Rewrite firmware using the Compact Flash card.	—	—
3	Change PWB-M	—	—

16.5.84 CD002: JOB RAM save error

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Hard Disk connector for proper connection and correct as necessary.	—	—
2	Format Hard Disk.	—	—
3	Change Hard Disk.	—	—
4	Change PWB-MFP.	—	—

16.5.85 CD004: Hard disk access error

16.5.86 CD005: Hard Disk Error 1

16.5.87 CD006: Hard Disk Error 2

16.5.88 CD007: Hard Disk Error 3

16.5.89 CD008: Hard Disk Error 4

16.5.90 CD009: Hard Disk Error 5

16.5.91 CD00A: Hard Disk Error 6

16.5.92 CD00B: Hard Disk Error 7

16.5.93 CD00C: Hard Disk Error 8

16.5.94 CD00D: Hard Disk Error 9

16.5.95 CD00E: Hard Disk Error A

16.5.96 CD00F: Hard disk data transfer error

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Hard Disk connector for proper connection and correct as necessary.	—	—
2	Reinstall the Hard Disk.	—	—
3	Change Hard Disk.	—	—
4	Change PWB-MFP.	—	—

16.5.97 CD010: Hard disk unformat

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select [Service Mode] → [State Confirmation] → [Memory/HDD Adj.] → [HDD Format].	—	—
2	Change Hard Disk	—	—
3	Change PWB-MFP	—	—

16.5.98 CD011: Hard disk specifications error

Relevant Electrical Parts	
Hard Disk	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the hard disk specifications.	—	—
2	Change the hard disk.	—	—

16.5.99 CD012: Encryption ASIC setting error

16.5.100 CD013: Encryption ASIC mounting error

Relevant Electrical Parts	
Encryption ASIC	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Encryption ASIC for proper installation.	—	—
2	Change the Encryption ASIC.	—	—

16.5.101 CE001: Abnormal message queue

16.5.102 CE002: Message and Method parameter failure

16.5.103 CE003: Task error

16.5.104 CE004: Event error

16.5.105 CE005: Memory access error

16.5.106 CE006: Header access error

16.5.107 CE007: DIMM initialize error

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connectors on PWB-MFP for proper connection and correct as necessary.	—	—
2	Change PWB-MFP.	—	—

16.5.108 CEEE1: MSC undefined malfunction occurring

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connectors on PWB-MFP for proper connection and correct as necessary.	—	—
2	Change PWB-MFP	—	—

16.5.109 CEEE2: Scanner Section undefined malfunction

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the connector connection between PWB-A and PWB-C if faulty.	—	—
2	Change PWB-C	—	—
3	Change PWB-A	—	—

16.5.110 CEEE3: Engine Section undefined malfunction

Relevant Electrical Parts	
Mechanical Control Board (PWB-M)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the PWB-M connector for proper connection and correct as necessary.	—	—
2	Change PWB-M	—	—

17. Power supply trouble

17.1 Machine is not Energized at All (PU1 Operation Check)

Relevant Electrical Parts	
Main Power Switch (S1) Mechanical Control Board (PWB-M)	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is a power voltage supplied across PJ1PU1-1 and 3 on PU1?	Q to R-2	NO	Check the WIRING from the wall outlet to S1 PJ1PU1.
2	Are the fuses (F1 and F2) on PU1 conducting?	—	NO	Change PU1.
3	Is DC24 V being output from PJ5PU1-2 on PU1?	P-7	NO	Change PU1.
4	Is DC5 V being input to PJ7PU1-3 on PU1?	P-7	NO	Change PU1.
5	Is DC5 V being input to CNPOW-4 on the Control Board? (LED on PWB-M does not blink.)	I-7	NO	Change PU1.
			YES	Change PWB-M

17.2 Control panel indicators do not light.

Relevant Electrical Parts	
Image Processing Board (PWB-C) Control Panel (UN201)	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is the I/F cable between the Scanner and engine connected properly?	—	NO	Reconnect or change the I/F cable.
2	Is a power voltage being applied across PJ1PU1-1 and 3 on PU1?	Q to R-2	NO	Check the WIRING from the wall outlet to S1 PJ1PU1.
3	Is the fuse on PU1 conducting?	—	NO	Change PU1.
4	Is DC5 V being output from PJ13PU1-1 on PU1 and DC24 V from PJ12PU1-2?	R-7 R-8	NO	Change PU1.
5	Is PJ12C on PWB-C securely connected?	X-10 to 11	NO	Reconnect.
6	Is CN1UN201 on UN201 securely connected?	X-21	NO	Reconnect.
			YES	Change UN201. Change PWB-C.

17.3 Fusing Heaters do not Operate

Relevant Electrical Parts	
Primary Interlock Switch (S2) Fusing Unit	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is the power source voltage applied across PJ2PU1-1 to 3 on PU1? During this time, the Right Door should be closed.	R to Q-6	NO	Check wiring from power outlet to S2 to PJ2PU1.
2	Is the power source voltage applied across CN30-1 and 3, or across 2 and 3?	S-6 to 7	YES	Fusing Unit
			NO	Change PU1.

17.4 Power is not Supplied to Option

17.4.1 Power is not Supplied to ADF

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being output from CN51-1 on DF-601?	Y-8	YES	Malfunction in DF-601
2	Is DC24 V being output from PJ12PU1-6 on PU1?	Q to R-8	NO	Check wiring from PU1 to CN4 to ADF.
3	Is the fuse on PU1 conducting?	—	YES	Change PU1.
			NO	Malfunction in DF-601

17.4.2 Optional Paper Feed Cabinet

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being applied to hookup connector CN12-2?	R-26	NO	Malfunction in Paper Feed Cabinet
2	Is DC24 V being output from CNCST-2 on PWB-M?	J-23	NO	Check wiring from PWB-M to CN12 to Paper Feed Cabinet.
3	Is the fuse on PU1 conducting?	—	YES	Change PU1.
			NO	Malfunction in Paper Feed Cabinet

17.4.3 Power is not Supplied to Automatic Duplex Unit

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being output from CN19-2 on Duplex?	K-22	NO	Malfunction in Duplex.
2	Is DC24 V being output from CNDUP-2 on PWB-M?	J-22	NO	Check wiring from PWB-M to CN19 to Duplex.
3	Is the fuse on PU1 conducting?	—	YES	Change PU1.
			NO	Malfunction in Duplex.

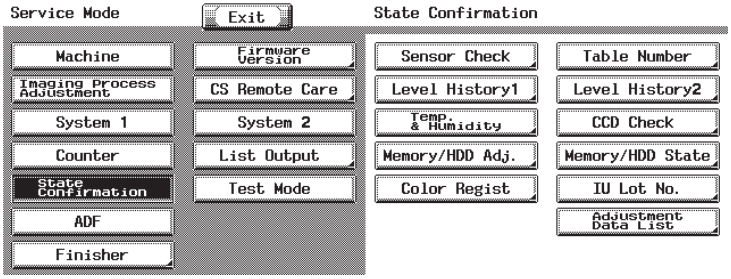
17.4.4 Finisher

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Are DC24 V and DC5 V being applied to CN60-11 and CN60-1, respectively, of the Finisher?	E-26 to 27	NO	Malfunction in Finisher.
2	Are DC24 V and DC5 V being applied to PJ6PU1-1 on PU1 and CNFIN-1 on PWB-M, respectively?	R-8 G-26	NO	Check wiring from PU1 to PWB-M to Finisher.
3	Is the fuse on PU1 conducting?	—	YES	Change PU1.
			NO	Malfunction in Finisher.

18. Image quality problem

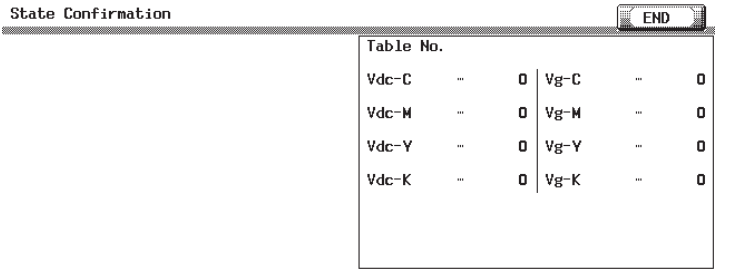
18.1 How to read Element date

- As part of troubleshooting procedures, the numeric values set for “State Confirmation” available from “Service Mode” can be used to isolate the cause of the image problem.



4038F4E514DA

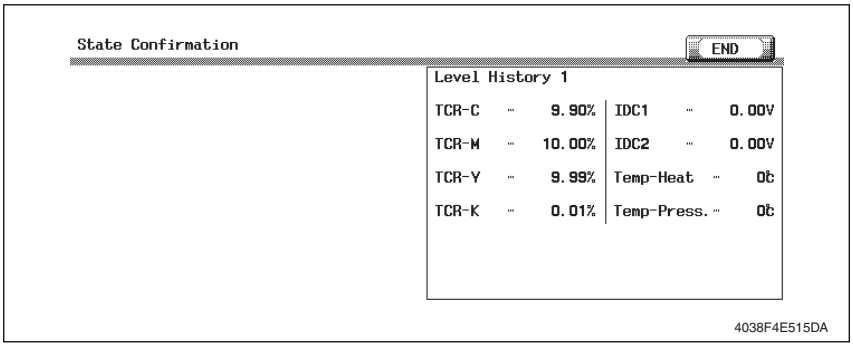
18.1.1 Table Number



4038F4E517DA

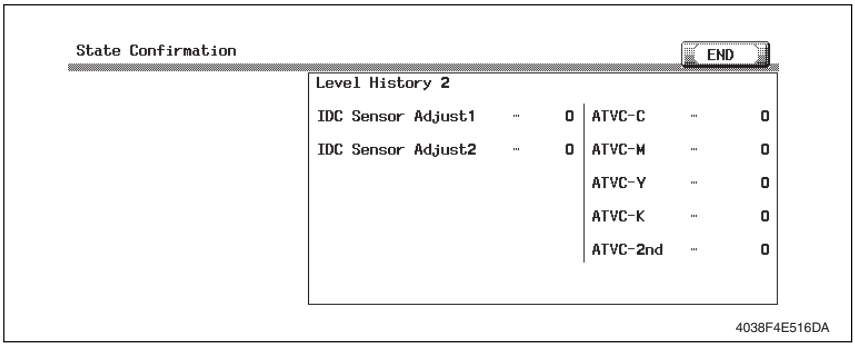
Vdc-C Vdc-M Vdc-Y Vdc-K	• Shows the developing bias value of each color of toner when an image is produced. • Standard values: Around 400 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant Components: Imaging Unit, High Voltage Unit (Developing Bias)
Vg-C Vg-M Vg-Y Vg-K	• Shows the grid voltage value of each color of toner when an image is produced. • Standard values: Around 500 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant Components: Imaging Unit, High Voltage Unit (Developing Bias)

18.1.2 Level History 1



TCR-C TCR-M TCR-Y TCR-K	• Shows the T/C ratio (in 0.01 % increments). • Standard value: 8 ± 2 % • Relevant Components: PH Unit, TCR Sensor K
IDC1 IDC2	• Shows the IDC bare surface output reading taken last (in 0.01 V increments). • It should normally be around 4.3 V. • The output range is 0 V to 5 V. • “Reading taken last” means: Latest toner density When the Start key is pressed, the output value is displayed while a test print is being produced. • Relevant Components: IDC Sensor, Transfer Belt Unit
Temp-Belt. Temp-Press.	• Shows the temperature of the Heating Roller (Temp-Heat) and the Fusing Pressure Roller (Temp-Press.) (in 1 °C increments). • Relevant Components: Fusing Unit

18.1.3 Level History 2



IDC Sensor Adjust 1 IDC Sensor Adjust 2	• Shows the IDC intensity adjustment value. • It should normally be around 40 and can range from 0 to 255. • The value becomes greater as the Transfer Belt Unit has been used more. • Relevant Components: IDC Sensor, Transfer Belt Unit
ATVC -C ATVC -M ATVC -Y ATVC -K ATVC -2nd	• Shows the latest ATVC level (which varies according to the paper type). • 300 V to 3000 V (ATVC-C/-M/-Y/-K) • 300 V to 5000 V (ATVC-2nd) • Relevant Components: Transfer Belt Unit, High Voltage Unit (Image Transfer, Neutralizing)

18.2 How to identify problematic part

- This chapter is divided into two parts: “Initial Check Items” and “Troubleshooting Procedure by a Particular Image Quality Problem.”
- When an image quality problem occurs, first go through the “Initial Check Items” and, if the cause is yet to be identified, go to “Troubleshooting Procedure by a Particular Image Quality Problem.”

18.2.1 Initial Check Items

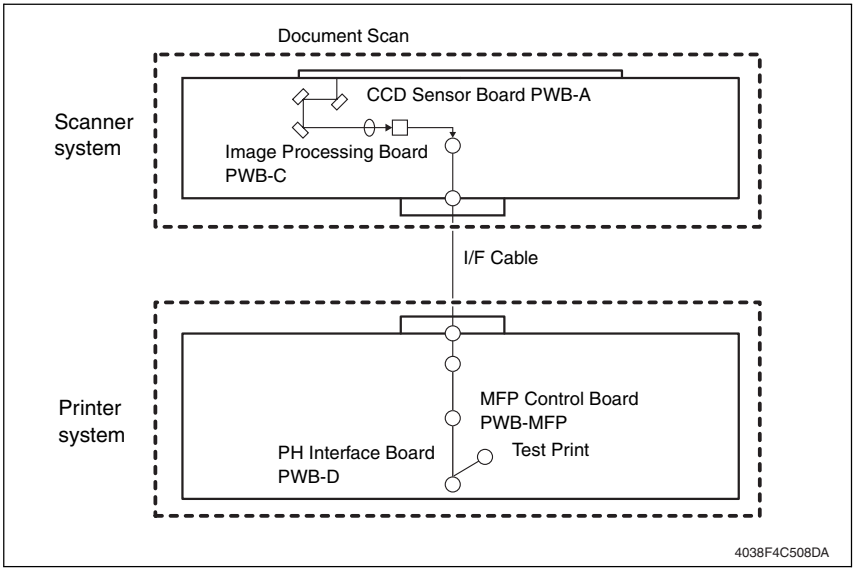
A. Initial Check Items 1

- Check first to see if image data is properly transmitted between Scanner and memory, and between memory and printer.

Action	Result	Next Step
Enter the Service Mode, select [State Confirmation] → [Memory/HDD Adj.] → [Memory Bus Check], and select and carry out [Scanner→Memory] and [Memory→PRT] checks.	OK	Initial Check Items 2
	NG	☞ 372, 367 (action as instructed)

B. Initial Check Items 2

- Let the machine produce a test print and determine whether the image problem is attributable to the Scanner or printer system.

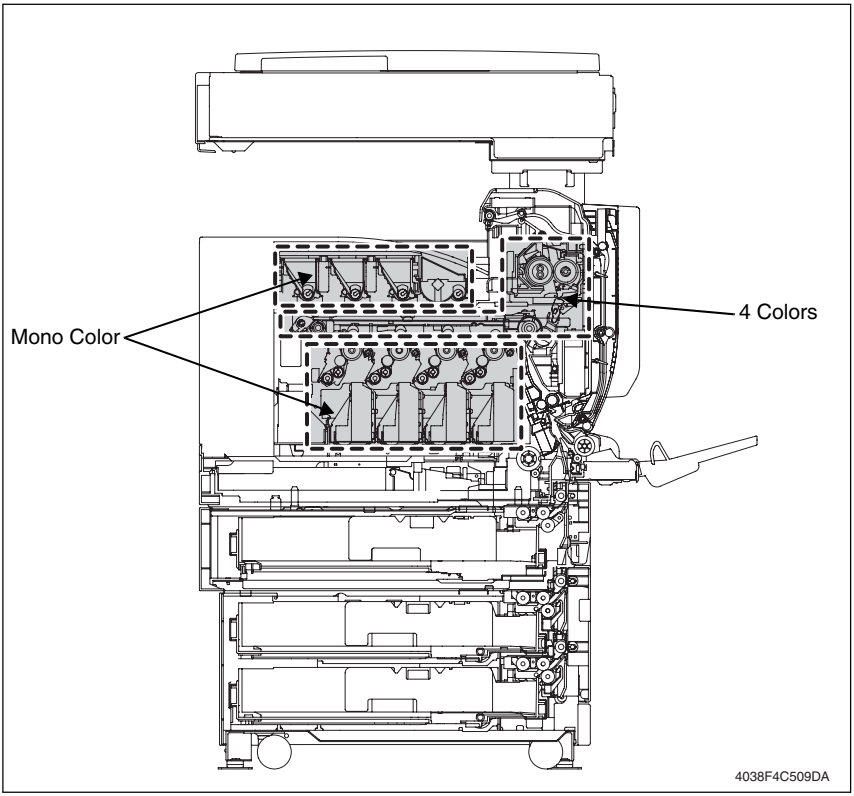


- Evaluation Procedure

Image Problem	Action	Result	Cause	Next Step
Lines, bands	From [Service Mode], select [Test Mode] → [Halftone Pattern] → [SINGLE] → [HYPER] → [Gradation] → [C→M→Y→K] → [Density 64], and produce a test print. Is image problem evident?	YES	Printer	Initial Check Items 3
		NO	Scanner	☞ 387

C. Initial Check Items 3

- If the printer is responsible for the image problem, let the machine produce a test print and determine whether the image problem occurs in a specific single color or four colors



- Evaluation Procedure

Image Problem	Action	Result	Cause	Next Step
Lines, bands	From [Service Mode], select [Test Mode] → [Halftone Pattern] → [SINGLE] → [HYPER] → [Gradation] → [C→M→Y→K] → [Density 64], and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	☞ 414
		NO	Printer, single color	☞ 400

18.3 Solution

18.3.1 IR System: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines in Sub Scan Direction, and colored bands in Sub Scan Direction

A. Typical Faulty Images

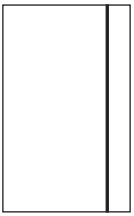
White lines in Sub Scan Direction

4036fs4021c0

White bands in Sub Scan Direction

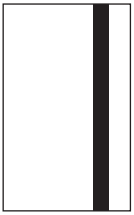
4036fs4022c0

Color lines in Sub Scan Direction



4036fs4023c0

Color bands in Sub Scan Direction



4036fs4024c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty	YES	Clean.
		Lens is dirty	YES	Clean.
		Exposure Lamp is dirty	YES	Clean.
		Reflectors are dirty	YES	Clean.
6	Machine → Scan Area → Image Position: Side Edge (Service Mode)	The adjustment value for [Image Position: Side Edge] falls within the specified range.	NO	Readjust.
7		The white lines/bands or colored lines/bands are blurry.	YES	Change Scanner Assy. Change CCD Unit.

18.3.2 Scanner System: white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, and colored bands in Main Scan Direction

A. Typical Faulty Images

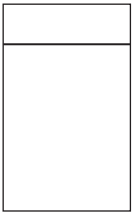
White lines in Main Scan Direction

4036fs4025c0

White bands in Main Scan Direction

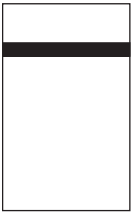
4036fs4026c0

Color lines in Main Scan Direction



4036fs4027c0

Color bands in Main Scan Direction



4036fs4028c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Machine → Scan Area → Image Position: Top Edge (Service Mode)	The adjustment value for [Image Position: Leading Edge] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

18.3.3 Scanner System: color spots

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

18.3.4 Scanner System: fog

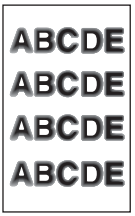
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3		Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
4	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
6	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty.	YES	Clean.
7		Lens is dirty.	YES	Clean.
8		Exposure Lamp is dirty.	YES	Clean.
9		Reflectors are dirty.	YES	Clean.
10	Basic Screen Quality/Density	The problem is eliminated when the image is produced in the Manual exposure setting.	NO	Try another exposure level in Manual.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change Scanner Assy. Change CCD Unit.

18.3.5 Scanner System: blurred image, blotchy image

A. Typical Faulty Images

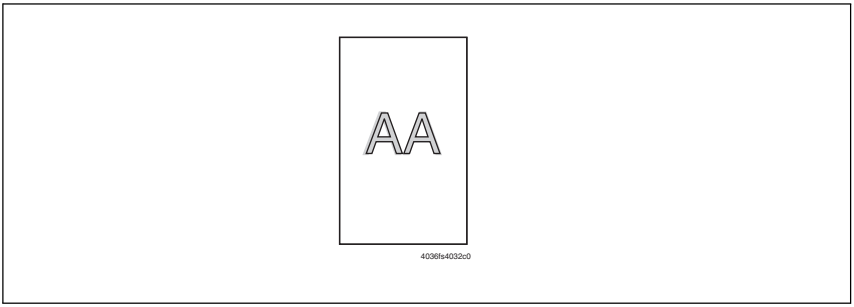


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	Original Cover	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
3	Original Glass	Original Glass tilts.	YES	Position Original Glass correctly. Check original loading position.
4	2nd/3rd Mirrors Carriage	Scanner is not aligned with the 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

18.3.6 Scanner System: incorrect color image registration, sync shift (lines in main scan direction)

A. Typical Faulty Images

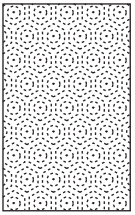


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	Original Cover	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
3	Scanner rails	Foreign matter on rails.	YES	Clean and apply lubricant.
4	Drive Cables	Cable kinks or is damaged.	YES	Correct or change.
5	Scanner Assy	Scanner moves smoothly.	NO	Adjust the Scanner Motor timing belt. → Change bushing. → Change Scanner Motor.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change CCD Unit.

18.3.7 Scanner System: moire

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original mode (select one other than that resulted in moire).
2	Basic Screen Quality/Density	Moire distortions recur even after the original mode has been changed.	YES	Select “Text Mode” or “Photo Mode”.
3	Basic Screen Zoom	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

18.3.8 Scanner System: skewed image

A. Typical Faulty Images

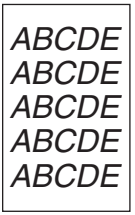
4036fs4034c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is skew.	YES	Reposition original.
2	Original Glass	Original Glass is in positive contact with the flat spring without being tilt.	NO	Reinstall the glass. Check the original loading position.
3	2nd/3rd Mirrors Carriage	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

18.3.9 Scanner System: distorted image

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Installation	Machine is installed on a level surface.	NO	Reinstall.
2	2nd/3rd Mirrors Carriage	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
3	Scanner Motor	Scanner Motor turns smoothly.	NO	Change belt. Change Scanner Motor.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

18.3.10 Scanner System: low image density, rough image

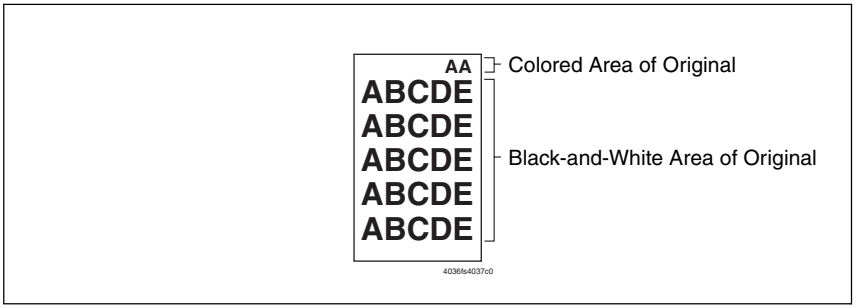
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original sticks to Original Glass.	YES	Reposition original.
2	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
3	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty.	YES	Clean.
5		Lens is dirty.	YES	Clean.
6		Exposure Lamp is dirty.	YES	Clean.
7		Reflectors are dirty.	YES	Clean.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Clean Exposure Lamp. → Change Scanner Assy. → Change CCD Unit.

18.3.11 Scanner System: defective ACS

A. Typical Faulty Images

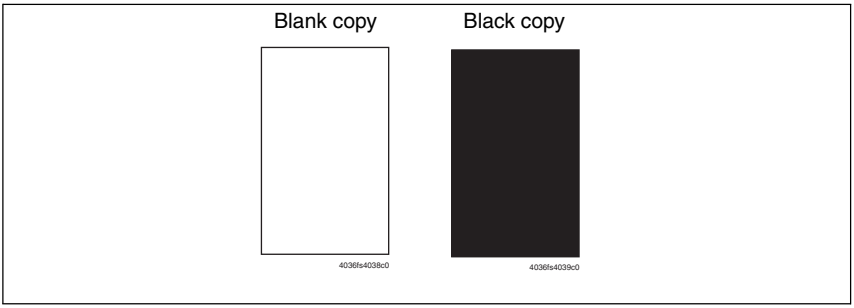


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Auto Color Level Adjustment [User Setting]	The problem persists even after the ACS Determination Level Adjust function has been changed.	YES	Change the original loading direction. Make manual settings according to the type of original. (If the original contains a colored area in one of its corners, the machine may fail to properly detect the colored area.)

18.3.12 Scanner System: blank copy, black copy

A. Typical Faulty Images

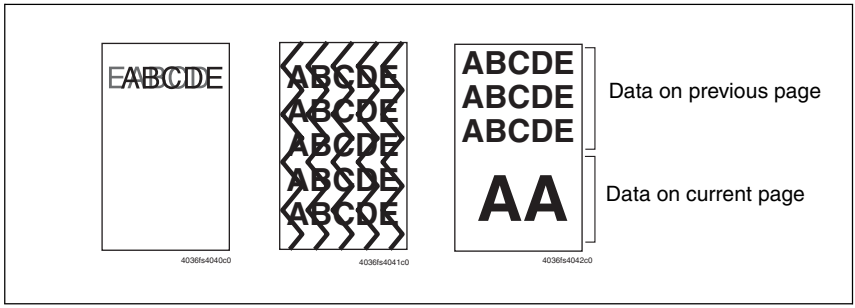


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Cable connecting Scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image Processing Board (PWB-C)	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
3	CCD Unit	Connectors of the CCD Unit are connected properly.	NO	Reconnect.
4	Test Mode [Service Mode]	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change I/F connection cable.
5	Image Processing Board (PWB-C)	The problem is eliminated after the I/F connection cable has been changed.	NO	Change Image Processing Board.

18.3.13 Scanner System: abnormal image

A. Typical Faulty Images

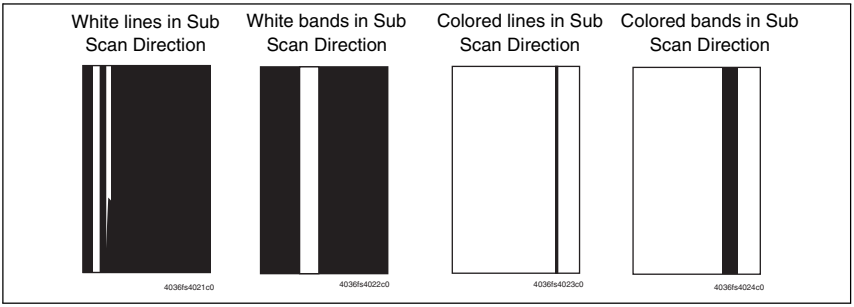


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Cable connecting Scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image Processing Board (PWB-C)	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
3	MFP Control Board (PWB-MFP)	Data on previous page is mixed with data on current page.	NO	Reinstall expanded memory.
4	Test Mode [Service Mode]	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change interface connection cable.
5	Image Processing Board (PWB-C)	The problem is eliminated after the interface connection cable has been changed.	NO	Change Image Processing Board.
6	MFP Control Board (PWB-MFP)	The problem has been eliminated through the checks of steps up to 5.	NO	Change MFP Control Board.

18.3.14 Printer Monocolor: white lines in Sub Scan Direction, white bands in Sub Scan Direction, colored lines colored bands in Sub Scan Direction

A. Typical Faulty Images

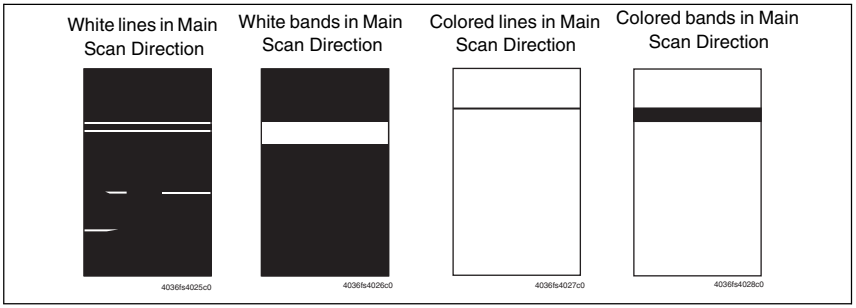


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	NO	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
2	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each IU and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change PH Unit.

18.3.15 Printer Monocolor: white lines in Main Scan Direction, white bands in Main Scan Direction, colored lines in Main Scan Direction, colored bands in Main Scan Direction

A. Typical Faulty Images

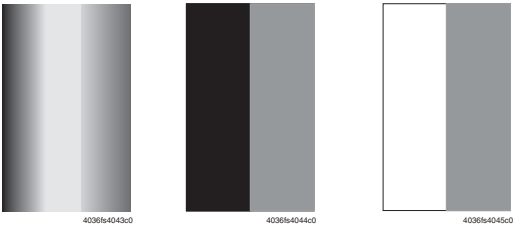


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	NO	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
2	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each IU and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change PH Unit.

18.3.16 Printer Monocolor: uneven density in sub scan direction

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	High image density original	Uneven density in Sub Scan Direction occurs at a pitch of 40 mm to 50 mm when a multi-copy cycle is run using an original with high image density (50% or more).	YES	Feed 10 to 20 blank sheets of paper with no originals placed, as the IU fails to keep up with a high demand for toner.
2	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3		Dirty on the outside.	YES	Clean.
4	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
5	Image Transfer Belt Unit	Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change IU. → Change PH Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.17 Printer Monocolor: uneven density in main scan direction

A. Typical Faulty Images

4036fs4046c0

4036fs4047c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2		Dirty on the outside.	YES	Clean.
3	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
4	Image Transfer Belt Unit	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
5		Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Imaging Unit. → Change PH Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.18 Printer Monocolor: low image density

A. Typical Faulty Images

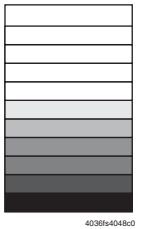
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	State Confirm → Table Number (Service Mode)	Check data for Vg and Vdc. Color Vdc: Around 400 V Vg : Around 500 V Black Vdc: Around 400 V Vg : Around 500 V	NO	Go to next step.
2	State Confirmation → Level History 1 (Service Mode)	Check TCR data.	NO	Go to next step.
3		IDC output value is around 4.3 V.	NO	Clean IDC Sensor. Check Image Transfer Belt for damage.
4	Level History data check results	Low TCR and low Vg and Vdc	YES	Go to step 8.
5		Low TCR and high Vg and Vdc	YES	Go to step 13.
6		TCR falling within specified range and low Vg and Vdc	YES	Go to step 8.
7		TCR falling within specified range and high Vg and Vdc	YES	Go to step 13.
8	Imaging Unit	Dirty on the outside.	YES	Clean.
9	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
10	TCR Sensor window	The color TCR Sensor window on the LED Assy is dirty.	YES	Clean.
11	Image Transfer Belt Unit	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
12		Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
13	Hopper Unit	Connectors are loose.	YES	Reconnect.
14		Gear is cracked.	YES	Change gear.
15	Image Process Adjustment → TCR Toner Supply (Service Mode)	Toner is properly supplied when TCR Toner Supply is run.	NO	Go to next step.

Step	Section	Check Item	Result	Action
16	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 19.
17	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
18	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust.	NO	Go to next step.
19		The problem has been eliminated through the checks of steps up to 18.	NO	Change Imaging Unit. → Change MFP Control Board → Change PH Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.19 Printer Monocolor: gradation reproduction failure

A. Typical Faulty Images

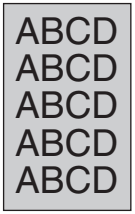


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Photo/Density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
2	Imaging Unit	Dirty on the outside.	YES	Clean.
3	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
4	TCR Sensor window	TCR Sensor window is dirty.	YES	Clean.
5	State Confirmation → Level History 1 (Service Mode)	IDC output value is around 4.3 V.	NO	Clean IDC Sensor. Check Image Transfer Belt for damage.
6	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust;	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change Imaging Unit. → Change MFP Control Board → Change PH Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.20 Printer Monocolor: foggy background

A. Typical Faulty Images



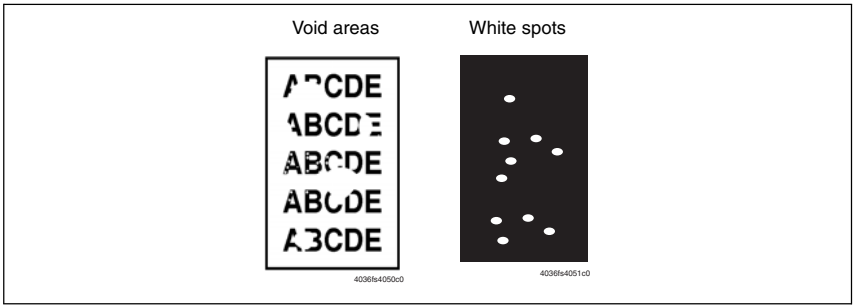
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	State Confirmation → Table Number (Service Mode)	Check data for Vg and Vb. Color Vdc: Around 400 V Vg : Around 500 V Black Vdc: Around 400 V Vg : Around 500 V	NO	Go to next step.
2	State Confirmation → Level History 1 (Service Mode)	Check TCR data.	NO	Go to next step.
3		IDC output value is around 4.3 V.	NO	Clean IDC Sensor. Check Transfer Belt for damage.
4	Level History data check results	Low TCR and low Vg and Vdc	YES	Go to step 8.
5		Low TCR and high Vg and Vdc	YES	Go to step 11.
6		TCR falling within specified range and low Vg and Vdc	YES	Go to step 8.
7		TCR falling within specified range and high Vg and Vdc	YES	Go to step 11.
8	Imaging Unit	Dirty on the outside.	YES	Clean.
9	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
10	TCR Sensor window	The color TCR Sensor window is dirty.	YES	Clean.
11	Image Process Adjustment → Background Voltage Margin (Service Mode)	The problem is eliminated after Background Voltage Margin has been adjusted.	NO	Go to next step.
12	Image Process Adjustment →Gradation Adjust (Service Mode)	“Conv. Value” falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 15.
13	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.

Step	Section	Check Item	Result	Action
14	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust.	NO	Go to next step.
15		The problem has been eliminated through the checks of steps up to 14.	NO	Change Imaging Unit. → Change MFP Control Board → Change PH Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.21 Printer Monocolor: void areas, white spots

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	☞ 404
2		There is void area at the rear side section.	YES	Perform [Transfer Adjust] of [Image Process Adjustment] under Service Mode.
3	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
4		Dirty on the outside.	YES	Clean.
5	Toner Cartridge	Foreign matter or caked toner in the Toner Cartridge.	YES	Remove foreign matter.
6	Installation enviroment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: [Service Mode] → [Image Process Adjustment] → [Dev. Bias Choice].

18.3.22 Printer Monocolor: colored spots

A. Typical Faulty Images

Colored spots

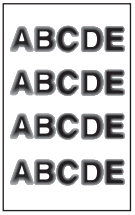
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3		Dirty on the outside.	YES	Clean.

18.3.23 Printer Monocolor: blurred image

A. Typical Faulty Images

Blurred image

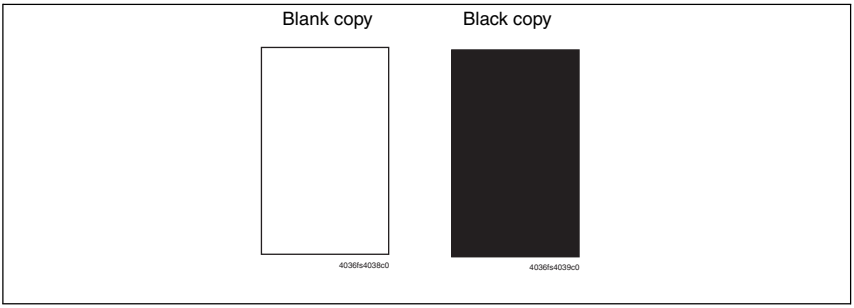


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	PH Unit	The surface of the PH Window is dirty.	YES	Clean with cleaning jig.
2	Imaging Unit	Dirty on the outside.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change Imaging Unit. → Change PH Unit.

18.3.24 Printer Monocolor: blank copy, black copy

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	A blank copy occurs.	YES	Check PH Unit connector for proper connection.
2	Imaging Unit	Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change IU.
3		The PC Drum Charge Corona voltage contact or PC Drum ground contact of the Imaging Unit is connected properly.	NO	Check, clean, or correct the contact.
4	High Voltage Unit (Image Transfer, Neutralizing)	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step 4.	NO	Change High Voltage Unit (Image Transfer, Neutralizing). → Change MFP Control Board → Change PH Unit.

18.3.25 Printer Monocolor: uneven image

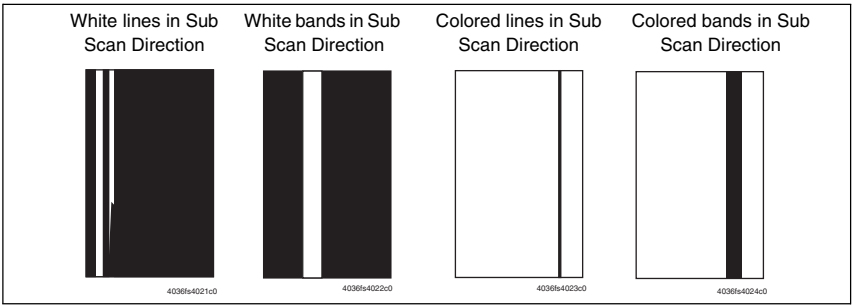
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Toner Cartridge	The Toner Cartridge of every color is surely installed.	NO	Re-install it.
2	PH Unit	The PH Unit is surely installed.	NO	Re-install it.
3		Uneven pitch occurs in 3.0 mm pitch.	YES	Replace the PH Unit Holder.
4	Toner Cartridge	There is any stain or breakage on the Drive section of the Toner Cartridge.	YES	Clean/replace the Toner Cartridge.
5	Imaging Unit	There is any stain, damage or abrasion on the PC drum.	YES	Replace the Imaging Unit.
6	Transfer Roller	There is any stain, damage, deformation or abrasion on the Transfer roller.	YES	Replace the Transfer Roller.
7	Fusing Unit	There is any stain, damage, deformation or abrasion on the Roller and Drive section of the Fusing Unit.	YES	Replace the Fusing unit.
8		The problem has been eliminated through the check of step 7.	NO	Replace the Image Transfer Belt unit.

18.3.26 Printer 4-Color: white lines in sub scan direction, white bands in sub scan direction, colored lines in sub scan direction, and colored bands in sub scan direction

A. Typical Faulty Images

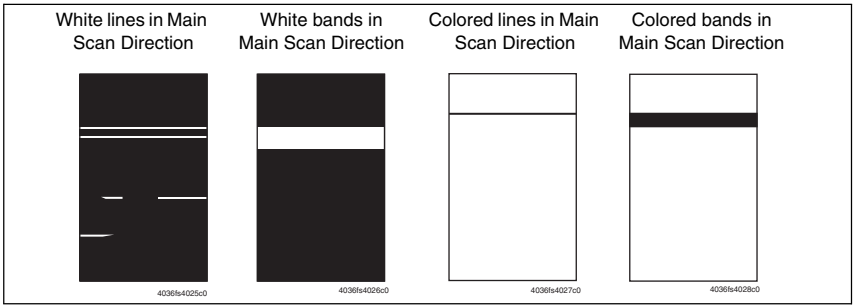


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	A white line or colored line in sub scan direction.	YES	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
2	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
4		Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning blade. Change Image Transfer Belt Unit.
5	2nd Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change 2nd Image Transfer Roller Unit.
6	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
7		Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
8	Fusing Unit	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean. Change Fusing Unit.
9		Fusing Paper Separator Fingers are dirty.	YES	Clean.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change MFP Control Board

18.3.27 Printer 4-Color: white lines in main scan direction, white bands in main scan direction, colored lines in main scan direction, and colored bands in main scan direction

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning Blade. change Image Transfer Belt Unit.
4	2nd Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change 2nd Image Transfer Roller Unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6		Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
7	Fusing Unit	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean. Change Fusing Unit.
8		Fusing Paper Separator Fingers are dirty.	YES	Clean.
9	Neutralizing Brush	The resistance values between the Neutralizing brush and the ground terminal is not ∞.	NO	Check the contact. Modify. Change Neutralizing brush.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change MFP Control Board

18.3.28 Printer 4-Color: uneven density in sub scan direction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	2nd Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
5		Image Transfer Roller is dirty or scratched.	YES	Change 2nd Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Belt Unit.

18.3.29 Printer 4-Color: uneven density in main scan direction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	2nd Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
5		Image Transfer Roller is dirty or scratched.	YES	Change 2nd Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Belt Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.30 Printer 4-Color: low image density

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2	Image Transfer Belt Unit	Terminal is dirty.	YES	Clean.
3	2nd Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
4		Image Transfer Roller is dirty or scratched.	NO	Change 2nd Image Transfer Roller Unit.
5	IDC Sensor	Sensor is dirty.	YES	Clean with blower brush.
6	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change Image Transfer Belt Unit. → Change MFP Control Board → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.31 Printer 4-Color: poor color reproduction

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2	Image Transfer Belt Unit	Terminal is dirty.	YES	Clean.
3	2nd Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
4		Image Transfer Roller is dirty or scratched.	NO	Change Image Transfer Roller Unit.
5	IDC Sensor	Sensor is dirty.	YES	Clean with blower brush.
6	Image Process Adjustment → Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment →D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change Image Transfer Belt Unit. → Change MFP Control Board → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.32 Printer 4-Color: incorrect color image registration

A. Typical Faulty Images

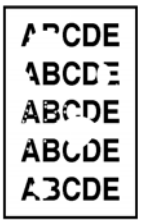
B. Troubleshooting Procedure

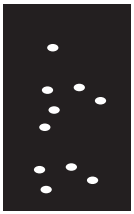
Step	Section	Check Item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the State Confirm screen.
2	Machine condition	Vibration is given to the machine after main power switch has been turned ON.	YES	Turn off the Main Power Switch and turn it on again more than 10 seconds after.
3	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
4		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
5		Drive coupling to the machine is dirty.	YES	Clean.
6	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
7	2nd Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
8		Image Transfer Roller is dirty or scratched.	YES	Change 2nd Image Transfer Roller Unit.
9	Machine → Fusing Transport Speed (Service Mode)	Brush effect or blurred image occurs.	YES	Readjust Fusing Transport Speed.
10	Machine → Color registration Adjustment (Service Mode)	Check the specific color in which color shift occurs.	YES	Perform “Color registration Adjustment.” If color shift is not corrected even with a correction of ± 1 dot, go to next step.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change Image Transfer Belt Unit. → Change MFP Control Board

18.3.33 Printer 4-Color: void areas, white spots

A. Typical Faulty Images

Void areas White spots





B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	☞ 419
2		There are void areas in the trailing edge.	YES	Perform [Transfer Adjust] of [Image Process Adjustment] under Service Mode.
3	Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
4		Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Transfer Belt Unit if belt is damaged.
5	2nd ImageTransfer Roller Unit	Transfer Roller is dirty or scratched.	YES	Change 2nd Image Transfer Roller Unit.
6		Charge Neutralizing Cloth is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-Image Transfer Guide Plate is damaged or dirty.	YES	Clean or change.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change Image Transfer Belt Unit.

18.3.34 Printer 4-Color: colored spots

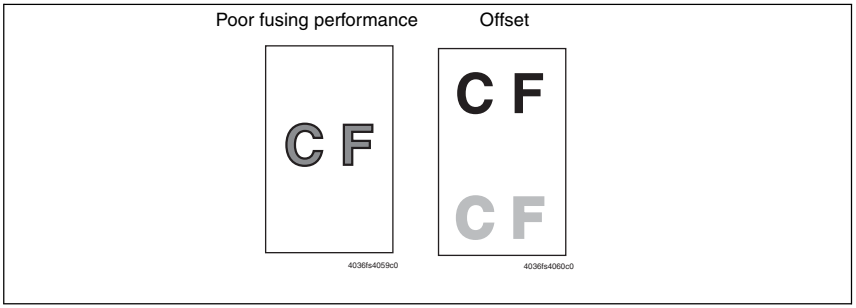
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
4	2nd Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change 2nd Image Transfer Roller Unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6	Fusing Unit	Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change Image Transfer Belt Unit.

18.3.35 Printer 4-Color: poor fusing performance, offset

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	Machine Setting → Fusing Temperature (Service Mode)	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	YES	Readjust Fusing Temperature.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change Fusing Unit.

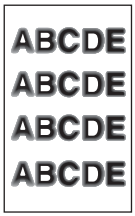
18.3.36 Printer 4-Color: brush effect, blurred image

A. Typical Faulty Images

Brush effect

4036fs4061c0

Blurred image



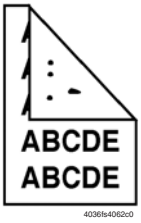
4036fs4031c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2		Paper type does not match.	YES	Change the setting.
3	Fusing Unit	Fusing Entrance Guide Plate is dirty.	YES	Clean.
4		Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
5	Machine → Fusing Transport Speed (Service Mode)	Changing fusing speed eliminates the problem of brush effect and blurred image.	YES	Readjust Fusing Transport Speed.

18.3.37 Printer 4-Color: back marking

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	2nd Image Transfer Roller Unit	Image Transfer Roller is scratched or dirty.	YES	Change 2nd Image Transfer Roller Unit.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fusing Unit	Fusing Entrance Guide Plate is scratched or dirty.	YES	Clean or change.
4		Lower Fusing Roller is scratched or dirty.	YES	Change Fusing Unit.
5	Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Belt Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

18.3.38 Printer 4-Color: uneven image

A. Typical Faulty Images

B. Troubleshooting Procedure

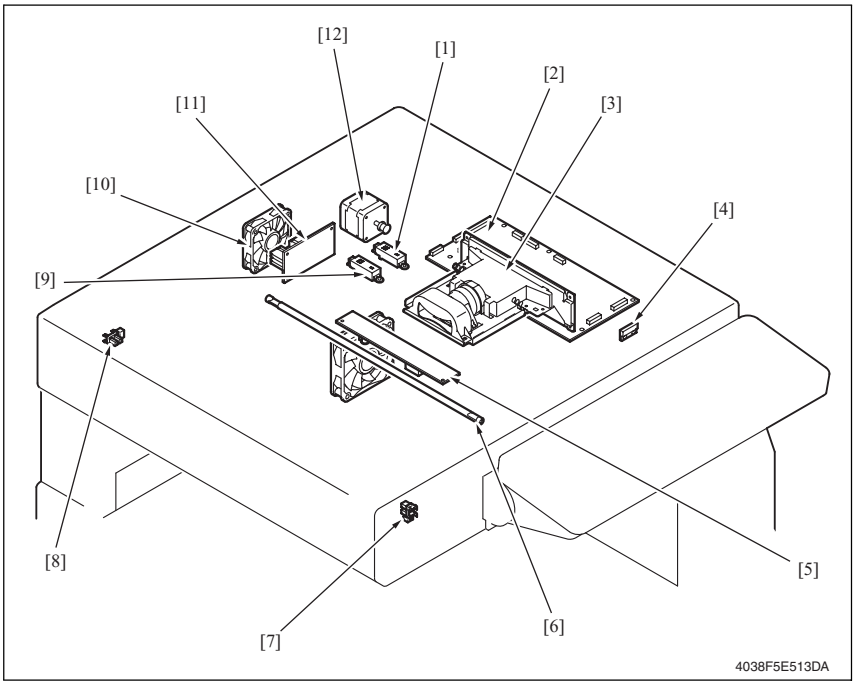
Step	Section	Check Item	Result	Action
1	Toner Cartridge	The Toner Cartridge of every color is surely installed.	NO	Re-install it.
2	PH Unit	The PH Unit is surely installed.	NO	Re-install it.
3		Uneven pitch occurs in 3.0 mm pitch.	YES	Replace the PH Unit Holder.
4	Toner Cartridge	There is any stain or breakage on the Drive section of the Toner Cartridge.	YES	Clean/replace the Toner Cartridge.
5	Imaging Unit	There is any stain, damage or abrasion on the PC drum.	YES	Replace the Imaging Unit.
6	Transfer Roller	There is any stain, damage, deformation or abrasion on the Transfer roller.	YES	Replace the Transfer Roller.
7	Fusing Unit	There is any stain, damage, deformation or abrasion on the Roller and Drive section of the Fusing Unit.	YES	Replace the Fusing unit.
8		The problem has been eliminated through the check of step 7.	NO	Replace the Image Transfer Belt unit.

Appendix

19. Parts layout drawing

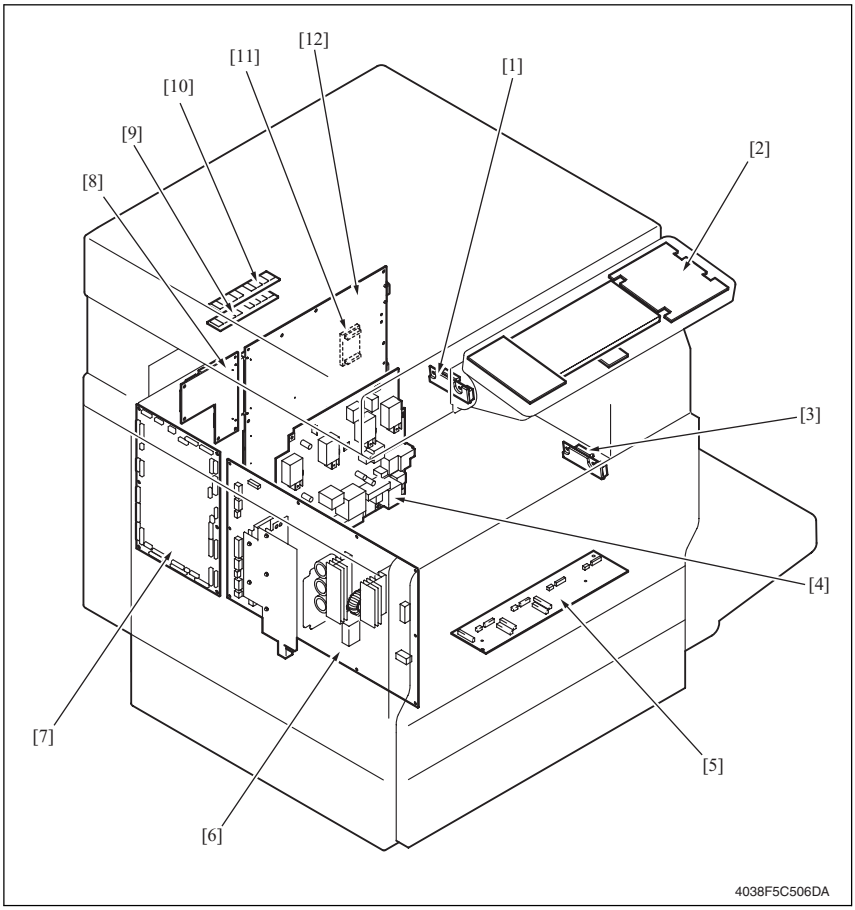
19.1 Main unit

19.1.1 IR section

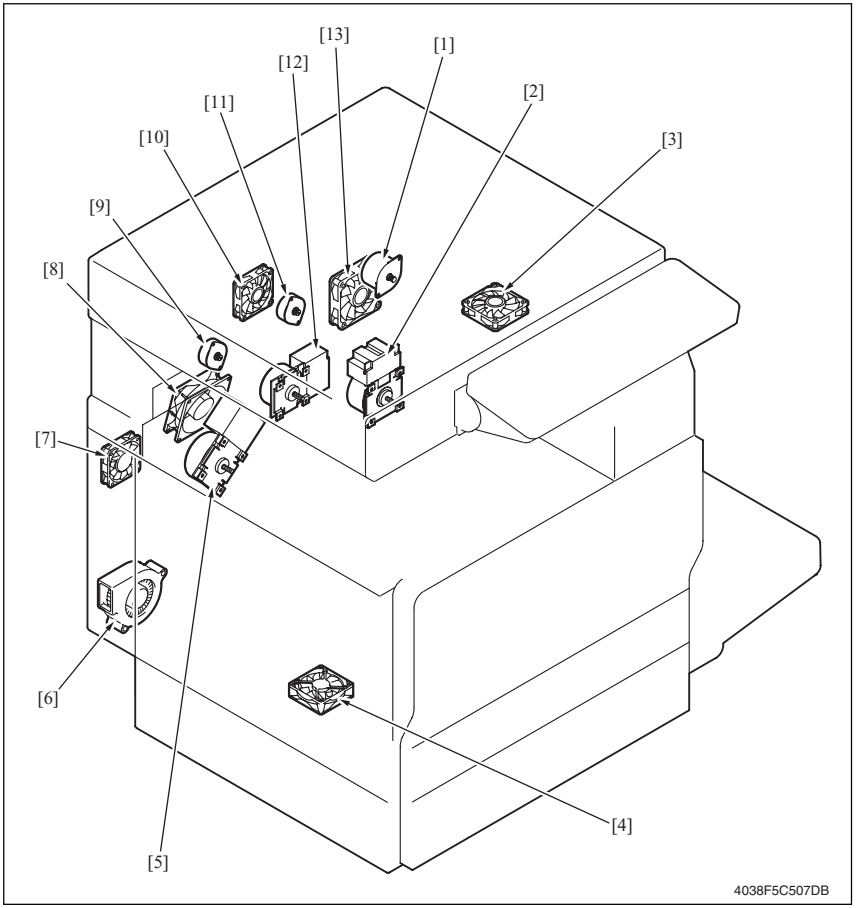


[1] Original Size Detecting Sensor/2 (PC204)
[2] Image Processing Board (PWB-C)
[3] CCD Sensor Board (PWB-A)
[4] Size Reset Switch (S201)
[5] Inverter Board (PU201)
[6] Exposure Lamp (FL201)
[7] Scanner Home Sensor (PC201)
[8] Original Cover Angle Sensor (PC202)
[9] Original Size Detecting Sensor/1 (PC203)
[10] Scanner Cooling Fan Motor (M202)
[11] Scanner Motor Drive Board (PWB-IC)
[12] Scanner Motor (M201)

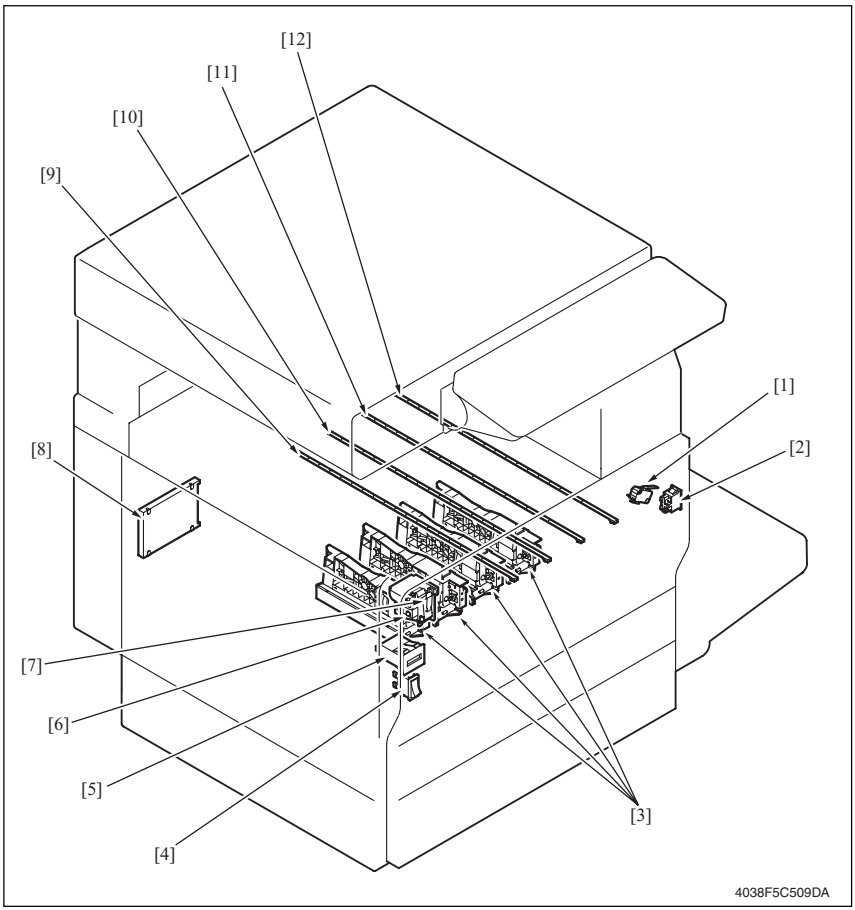
19.1.2 Engine section



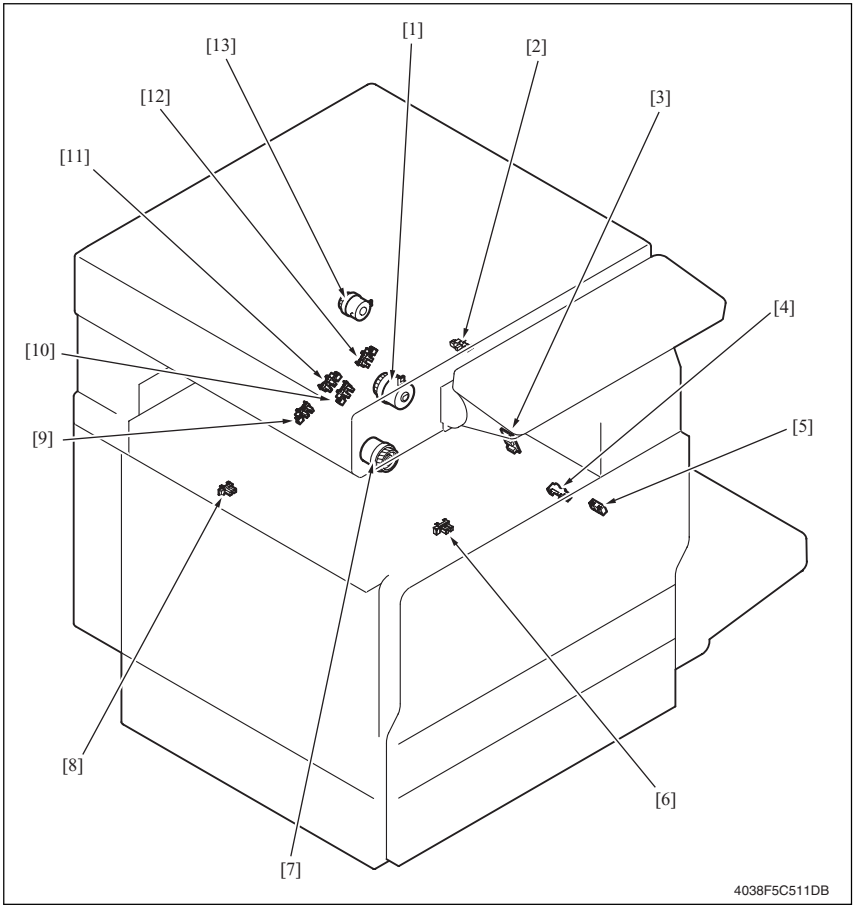
[1] IDC/Registration Sensor/2 (SE2)
[2] Control Panel (UN201)
[3] IDC/Registration Sensor/1 (SE1)
[4] High Voltage Unit (HV1)
[5] PH Interface Board (PWB-D)
[6] DC Power Supply (PU1)
[7] Mechanical Control Board (PWB-M)
[8] Slide Interface Board (PWB-SIF)
[9] DIMM/0 (WORK0)
[10] DIMM/1 (WORK1)
[11] NVRAM Board (PWB-NVR)
[12] MFP Control Board (PWB-MFP)



[1] Fusing Drive Motor (M4)
[2] Main Motor (M1)
[3] Fusing Cooling Fan Motor/2 (M11)
[4] Power Supply Cooling Fan Motor/1 (M8)
[5] Color Developing Motor (M3)
[6] Ozone Ventilation Fan Motor (M14)
[7] Power Supply Cooling Fan Motor/2 (M9)
[8] Cooling Fan Motor/1 (M12)
[9] Toner Supply Motor Y/M (M6)
[10] Cooling Fan Motor/2 (M22)
[11] Toner Supply Motor C/K (M7)
[12] Color PC Drum Motor (M2)
[13] Fusing Cooling Fan Motor/1 (M13)

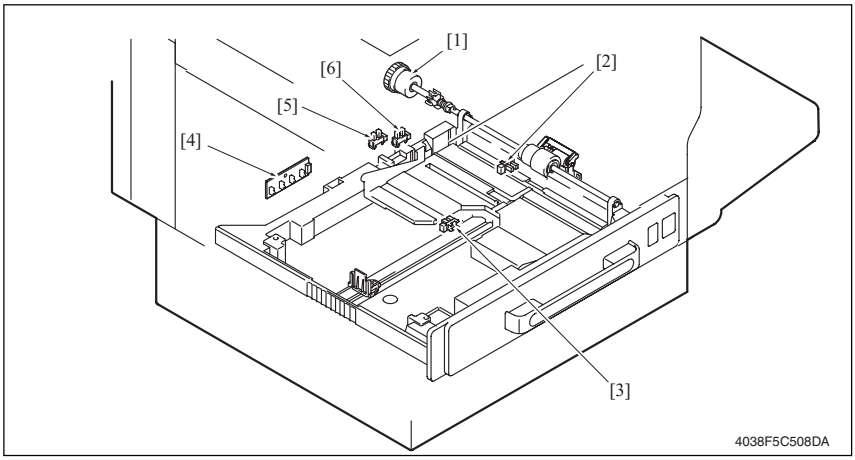


[1] Right Door Switch (S5)
[2] Primary Interlock Switch (S2)
[3] PH Unit
[4] Main Power Switch (S1)
[5] Total Counter (CNT1)
[6] Front Door Switch/1 (S3)
[7] Front Door Switch/2 (S4)
[8] Hard Disk Drive (HDD)
[9] Main Erase Lamp/Y (LA4)
[10] Main Erase Lamp/M (LA3)
[11] Main Erase Lamp/C (LA2)
[12] Main Erase Lamp/K (LA1)



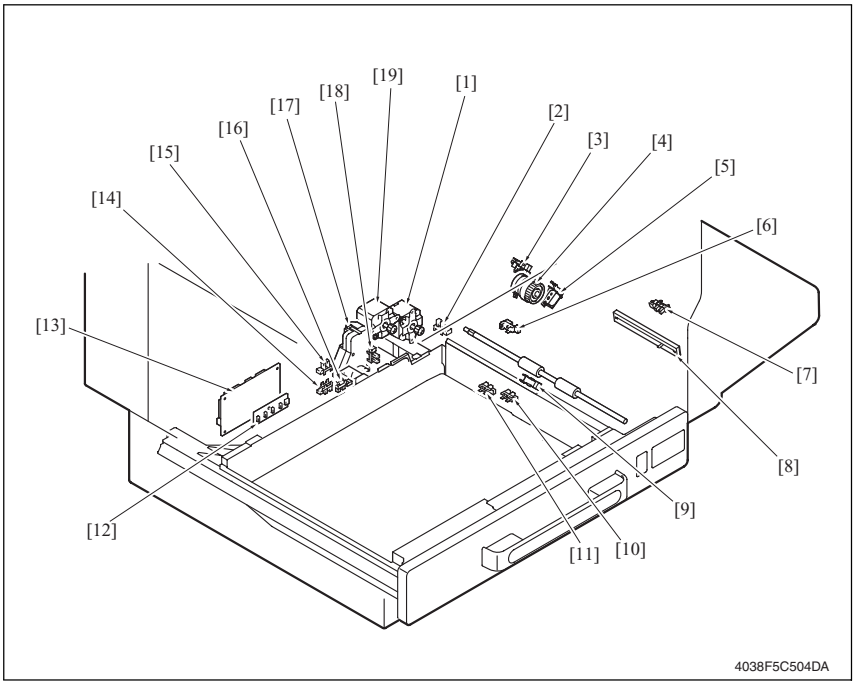
[1]	Developing Clutch/K (CL4)	[8]	Waste Toner Full Sensor (PC8)
[2]	Exit Sensor (PC2)	[9]	Color PC Drive Main Sensor (PC17)
[3]	Temperature/Humidity Sensor (SE3)	[10]	Color PC Drive Sub Sensor (PC18)
[4]	Registration Roller Sensor (PC1)	[11]	Black PC Drive Main Sensor (PC15)
[5]	OHP Sensor (PC4)	[12]	Black PC Drive Sub Sensor (PC16)
[6]	1st Image Transfer Pressure/Retraction Position Sensor (PC6)	[13]	1st Image Transfer Pressure/Retraction Clutch (CL3)
[7]	Registration Roller Clutch (CL1)		

19.1.3 Tray 1



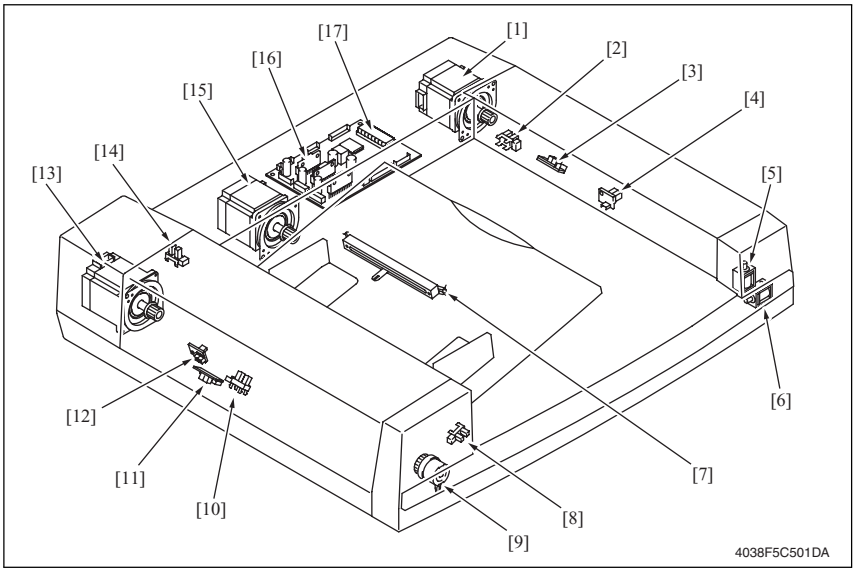
[1] Tray 1 Paper Feed Clutch (CL2)
[2] Tray 1 Paper Empty Sensor (PC10)
[3] Tray 1 CD Paper Size Sensor (PC9)
[4] Tray 1 Paper Size Board (PWB-I)
[5] Tray 1 Paper Near-Empty Sensor (PC11)
[6] Tray 1 Device Detection Sensor (PC12)

19.1.4 Tray 2/Multiple bypass tray



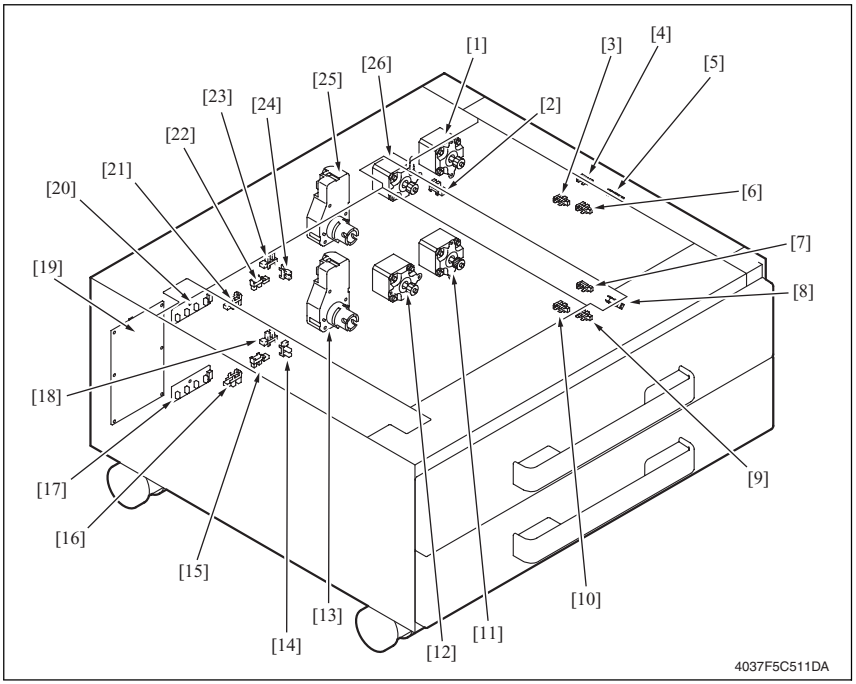
[1] Tray 2 Vertical Transport Motor (M2-PC)
[2] Tray 2 Door Set Sensor (PC5-PC)
[3] Bypass Lift-Up Sensor (PC14)
[4] Bypass Paper Feed Clutch (CL5)
[5] Bypass Pick-Up Solenoid (SL2)
[6] Tray 2 Vertical Transport Sensor (PC8-PC)
[7] Bypass Paper Empty Sensor (PC13)
[8] Bypass Paper Size VR (UN1)
[9] Tray 2 Paper Take-Up Sensor (PC9-PC)
[10] Tray 2 Paper Empty Sensor (PC6-PC)
[11] Tray 2 Lift-Up Sensor (PC7-PC)
[12] Tray 2 Paper Size Board (PWB-I-PC)
[13] Tray 2 Control Board (PWB-Z-PC)
[14] Tray 2 CD Paper Size Sensor/1 (PC4-PC)
[15] Tray 2 Set Sensor (PC2-PC)
[16] Tray 2 CD Paper Size Sensor/2 (PC3-PC)
[17] Tray 2 Lift-Up Motor (M3-PC)
[18] Tray 2 Paper Near-Empty Sensor (PC1-PC)
[19] Tray 2 Paper Feed Motor (M1-PC)

19.2 DF-601 (Option)



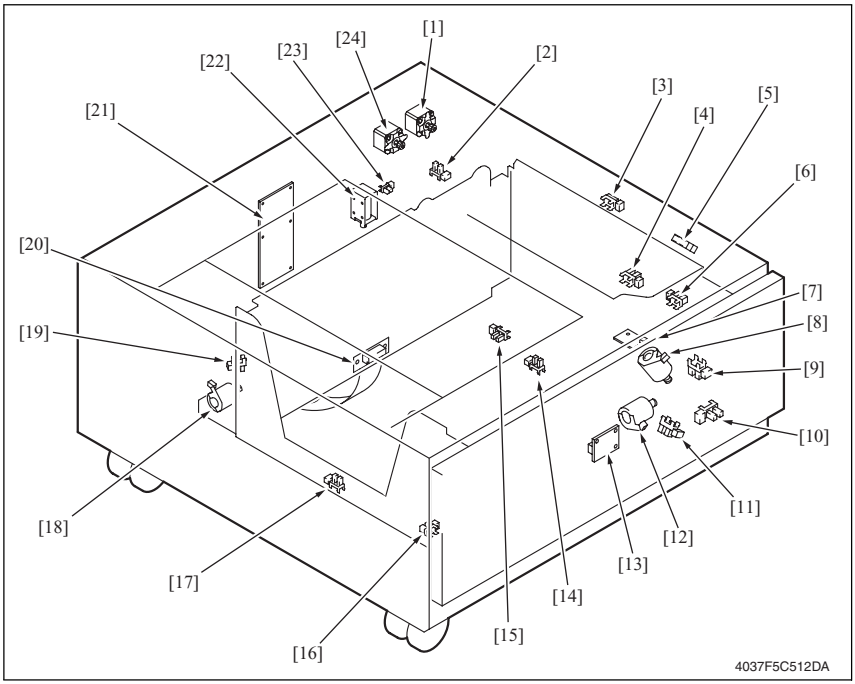
[1] Exit Motor (M3-DF)
[2] Exit Cover Sensor (PC7-DF)
[3] Exit Sensor (PC6-DF)
[4] Turnover Sensor (PC5-DF)
[5] Exit Solenoid (SL2-DF)
[6] Turnover Solenoid (SL1-DF)
[7] Document Size Volume (R1-DF)
[8] Tray Open/Close Sensor (PC8-DF)
[9] Registration Clutch (CL1-DF)
[10] Empty Sensor (PC4-DF)
[11] Pick-up Sensor (PC2-DF)
[12] Registration Sensor (PC1-DF)
[13] Take-up Motor (M1-DF)
[14] Take-up Cover Sensor (PC3-DF)
[15] Transport Motor (M2-DF)
[16] Control Board (PWB-A DF)
[17] ROM (IC7-DF)

19.3 PC103/PC203 (Option)



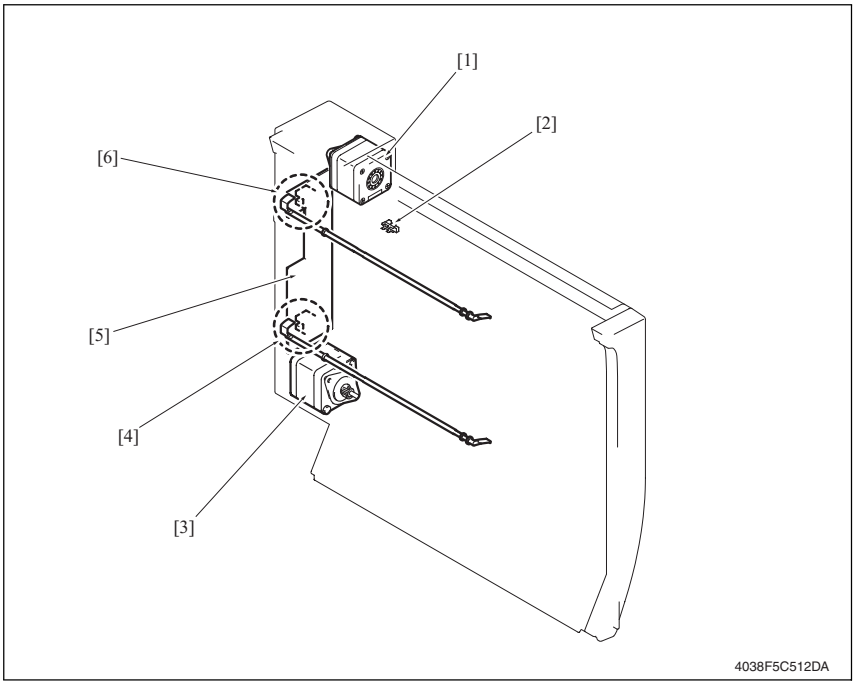
[1]	Tray 3 Vertical Transport Motor (M120-PC)	[14]	Tray 4 Near Empty Sensor (PC122-PC)
[2]	Tray 3 Door Set Sensor (PC111-PC)	[15]	Tray 4 CD Paper Size Sensor/2 (PC128-PC)
[3]	Tray 3 Lift-Up Upper Sensor (PC114-PC)	[16]	Tray 4 CD Paper Size Sensor/1 (PC127-PC)
[4]	Tray 3 Vertical Transport Sensor (PC117-PC)	[17]	Tray 4 Paper Size Board (PWB-I/(4) PC)
[5]	Tray 3 Paper Take-Up Sensor (PC116-PC)	[18]	Tray 4 Device Detection Sensor (PC121-PC)
[6]	Tray 3 Empty Sensor (PC115-PC)	[19]	Control Board (PWB-C2 PC)
[7]	Tray 4 Vertical Transport Sensor (PC126-PC)	[20]	Tray 3 Paper Size Board (PWB-I/(3) PC)
[8]	Tray 4 Paper Take-Up Sensor (PC125-PC)	[21]	Tray 3 CD Paper Size Sensor/1 (PC118-PC)
[9]	Tray 4 Empty Sensor (PC124-PC)	[22]	Tray 3 CD Paper Size Sensor 2 (PC119-PC)
[10]	Tray 4 Lift-Up Upper Sensor (PC123-PC)	[23]	Tray 3 Device Detection Sensor (PC112-PC)
[11]	Tray4 Vertical Transport Motor (M121-PC)	[24]	Tray 3 Near Empty Sensor (PC113-PC)
[12]	Tray4 Take-up Motor (M123-PC)	[25]	Tray 3 Lift-Up Motor (M124-PC)
[13]	Tray 4 Lift-Up Motor (M125-PC)	[26]	Tray3 Take-up Motor (M122-PC)

19.4 PC-403 (Option)



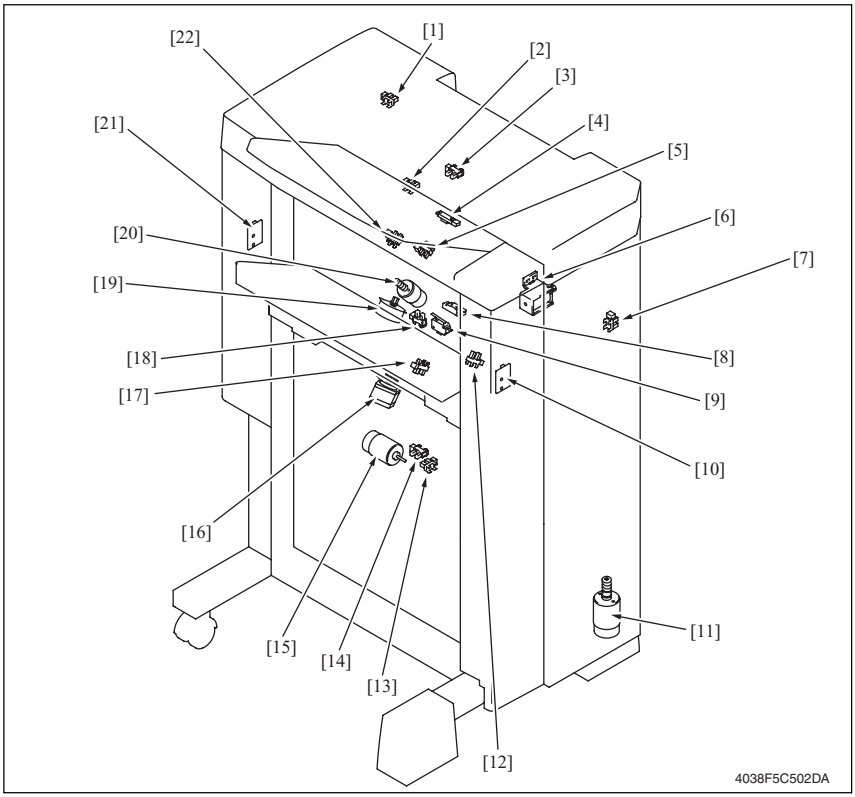
[1]	Vertical Transport Motor (M2-LCT)	[13]	Manual Button Down Board (NU1-LCT)
[2]	Door Set Sensor (PC5-LCT)	[14]	Shift Tray Stop Sensor (PC11-LCT)
[3]	Vertical Transport Sensor (PC2-LCT)	[15]	Lift-Up Lower Sensor (PC13-LCT)
[4]	Lift-Up Upper Sensor (PC4-LCT)	[16]	Shift Tray Empty Sensor (PC9-LCT)
[5]	Paper Take-up Motor (PC1-LCT)	[17]	Shift Tray Home Sensor (PC12-LCT)
[6]	Paper Empty Sensor (PC3-LCT)	[18]	Division Board Motor (M3-LCT)
[7]	Main Tray Empty Sensor Board (PWB-E LCT)	[19]	Division Board Position Sensor (PC14-LCT)
[8]	Elevator Motor (M5-LCT)	[20]	Motor Connection Board (PWB-N LCT)
[9]	Elevator Motor Pulse Sensor (PC10-LCT)	[21]	Control Board (PWB-C1 LCT)
[10]	Lower Over Run Sensor (PC7-LCT)	[22]	Tray Lock Solenoid (SL1-LCT)
[11]	Shift Motor Pulse Sensor (PC8-LCT)	[23]	Cassette Open Sensor (PC6-LCT)
[12]	Shift Tray Motor (M4-LCT)	[24]	Take-up Motor (M1-LCT)

19.5 AD-503 (Option)

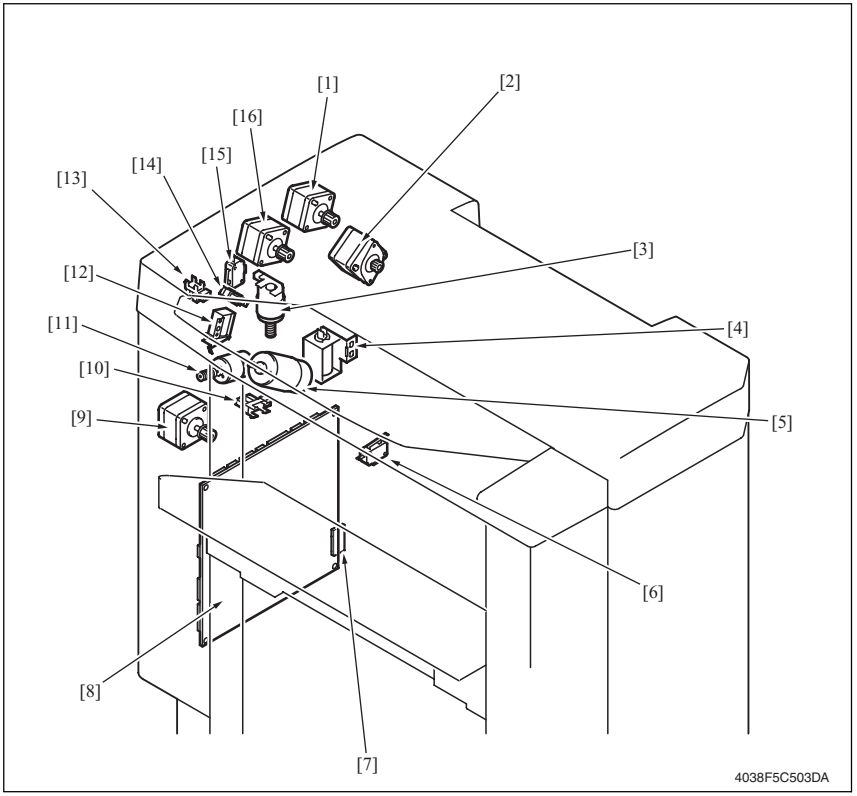


[1]	Duplex Unit Switchback Motor (M1 DU)	[4]	Duplex Unit Transport Sensor 2 (in PWB-A DU) (PC2 DU)
[2]	Duplex Unit Door Set Sensor (PCI DU)	[5]	Duplex Control Board (PWB-A DU)
[3]	Duplex Unit Transport Motor (M2 DU)	[6]	Duplex Unit Transport Sensor 1 (in PWB-A DU) (PC1 DU)

19.6 FS-501 (Option)

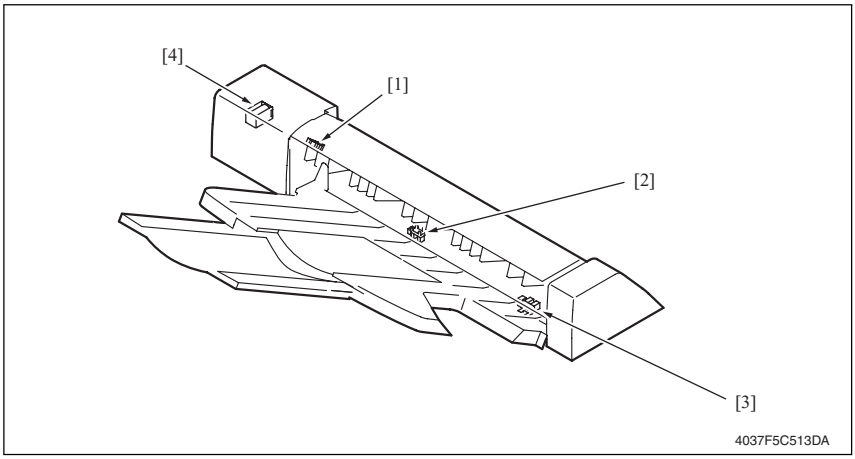


[1]	Upper Cover Sensor (PC18-FN)	[12]	CD Aligning Home Position Sensor (PC9-FN)
[2]	1st Tray Full Sensor (PC6-FN)	[13]	Shift Home Position Sensor (PC10-FN)
[3]	1st Tray Exit Sensor (PC1-FN)	[14]	Shift Motor Pulse Sensor (PC11-FN)
[4]	Lower Entrance Sensor (PC2-FN)	[15]	Shift Motor (M8-FN)
[5]	Storage Sensor (PC3-FN)	[16]	Stapling Unit Moving Motor (M6-FN)
[6]	1st Tray Entrance Switching Solenoid (SL2-FN)	[17]	Staple Home Position Sensor (PC14-FN)
[7]	Front Door Sensor (PC17-FN)	[18]	Elevator Tray Paper Sensor (PC8-FN)
[8]	Finisher Tray Paper Sensor (PC5-FN)	[19]	CD Aligning Motor (M5-FN)
[9]	Elevator Tray Upper Limit Switch (S2-FN)	[20]	Lower Paddle Motor (M9-FN)
[10]	Elevator Tray Upper Limit Sensor LED (PWB-C FN)	[21]	Elevator Tray Upper Limit Sensor PQ (PWB-D FN)
[11]	Elevator Motor (M7-FN)	[22]	Upper Entrance Sensor (PC4-FN)



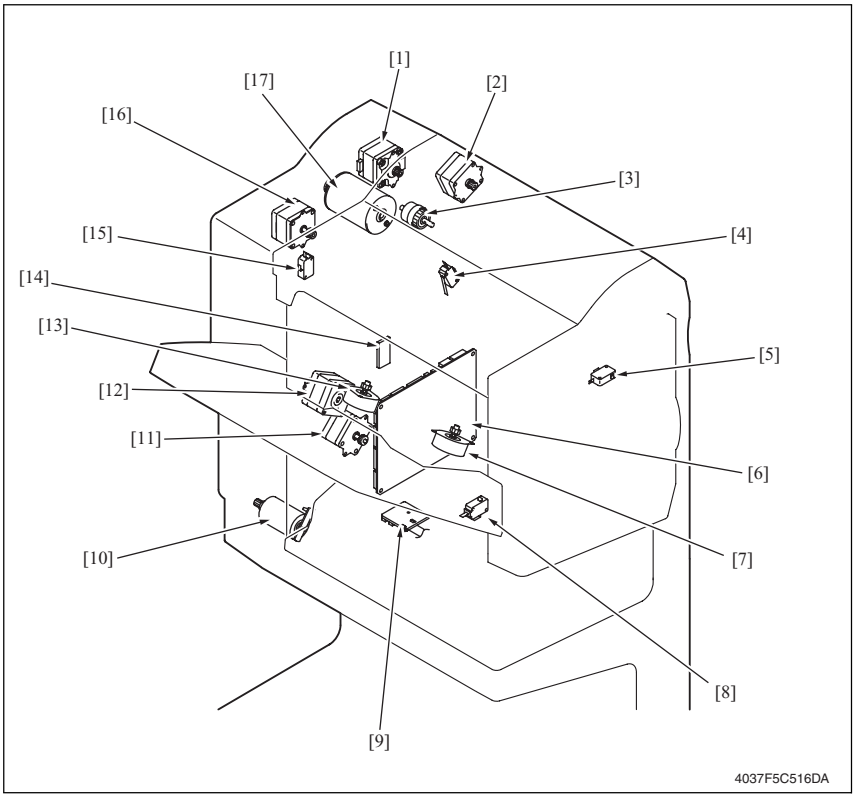
[1]	Upper Entrance Motor (M4-FN)	[9]	Exit Motor (M3-FN)
[2]	Entrance Motor (M1-FN)	[10]	Storage Roller Home Position Sensor (PC12-FN)
[3]	Exit Roller/Rolls Spacing Motor (M13-FN)	[11]	Upper Paddle Motor (M15-FN)
[4]	Upper/Lower Entrance Switching Solenoid (SL1-FN)	[12]	Upper Paddle Solenoid (SL3-FN)
[5]	Storage Roller/Rolls Spacing Motor (M12-FN)	[13]	Elevator Tray Full Sensor (PC7-FN)
[6]	Set Switch (S1-FN)	[14]	Exit Roller Home Position Sensor (PC13-FN)
[7]	ROM (IC3-FN)	[15]	Elevator Tray Lower Limit Switch (S3-FN)
[8]	Control Board (PWB-A FN)	[16]	Lower Entrance Motor (M2-FN)

19.7 JS-601 (Option)

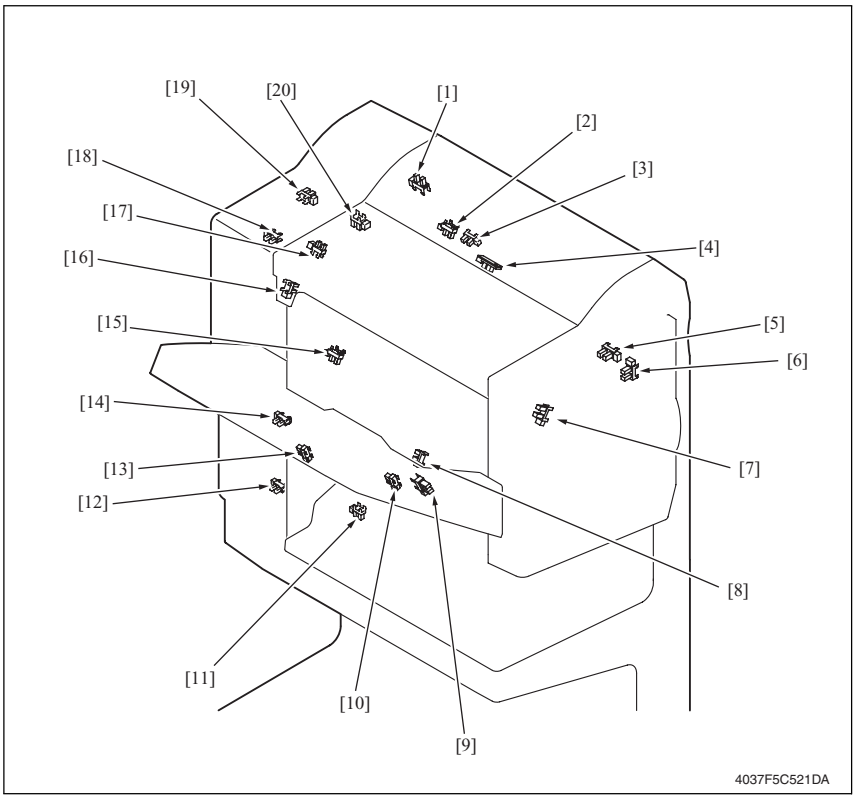


[1] Job Tray Cover Sensor (PC21-FN)
[2] Job Tray Exit Sensor (PC19-FN)
[3] Job Tray Full Sensor (PC20-FN)
[4] 3rd Entrance Switching Solenoid (SL-4)

19.8 FS-603 (Option)

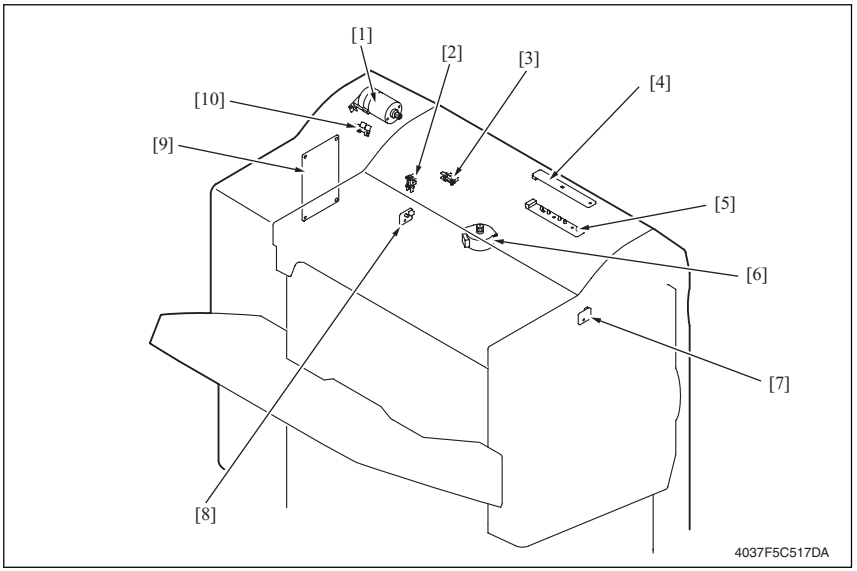


[1] Transport Motor (M1-FN)
[2] Entrance Motor (M9-FN)
[3] Saddle Clutch (CL1-FN)
[4] Joint Open Switch (MS2-FN)
[5] Front Door Open Switch (MS1-FN)
[6] Finisher Control Board (PWB-A FN)
[7] Front Aligning Motor (M4-FN)
[8] Staple Safety Switch (Front) (MS4-FN)
[9] Slide Home Position Sensor (PI18-FN)
[10] Shift Motor (M6-FN)
[11] Slide Motor (M8-FN)
[12] Exit Motor (M3-FN)
[13] Rear Aligning Motor (M5-FN)
[14] ROM (IC6-FN)
[15] Staple Safety Switch (Rear) (MS3-FN)
[16] Paddle Motor (M2-FN)
[17] Staple/Folding Motor (M7-FN)



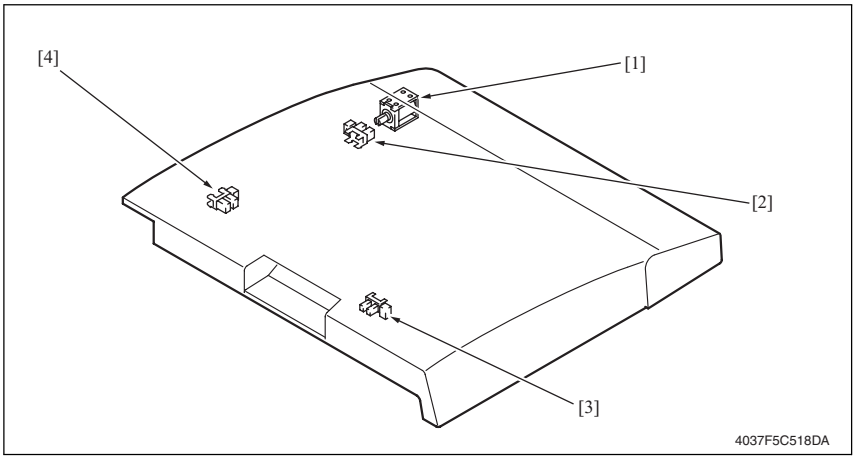
[1]	Entrance Sensor (PI1-FN)	[11]	Saddle Tray Sensor (PI13-FN)
[2]	Folding Roller Home Position Sensor (PI12-FN)	[12]	Shift Motor Clock Sensor (PI17-FN)
[3]	Folding Home Position Sensor (PI11-FN)	[13]	Stack Full Sensor (PI24-FN)
[4]	Folding Position Sensor (PI10-FN)	[14]	Shift Lower Limit Sensor (PI16-FN)
[5]	Upper Cover Open Sensor (PI23-FN)	[15]	Exit Belt Home Position Sensor (PI7-FN)
[6]	Front Door Open Sensor (PI22-FN)	[16]	Rear Aligning Plate Home Position Sensor (PI5-FN)
[7]	Front Aligning Plate Home Position Sensor (PI4-FN)	[17]	Paddle Home Position Sensor (PI2-FN)
[8]	Finisher Tray Sensor (PI6-FN)	[18]	Shift Upper Limit Sensor (PI15-FN)
[9]	Exit Tray Sensor (PI8-FN)	[19]	Staple/Folding Motor Clock Sensor (PI14-FN)
[10]	Exit Tray Home Position Sensor (PI9-FN)	[20]	Swing Guide Home Position Sensor (PI3-FN)

19.9 PK-501 (Option)



[1]	Punch Motor (M1P-PK)	[6]	Side Registration Motor (M2P-PK)
[2]	Side Registration Home Sensor (PI2P-PK)	[7]	Punch Trash Full LED Board (PWB-F PK)
[3]	Punch Motor Clock Board (PI3P-PK)	[8]	Punch Trash Full Photo Sensor Board (PWB-E PK)
[4]	Photo Sensor Board (PWB-C PK)	[9]	Punch Control Board (PWB-B PK)
[5]	LED Board (PWD-D PK)	[10]	Punch Home Position Sensor (PI1P-PK)

19.10 Horizontal Transport Unit



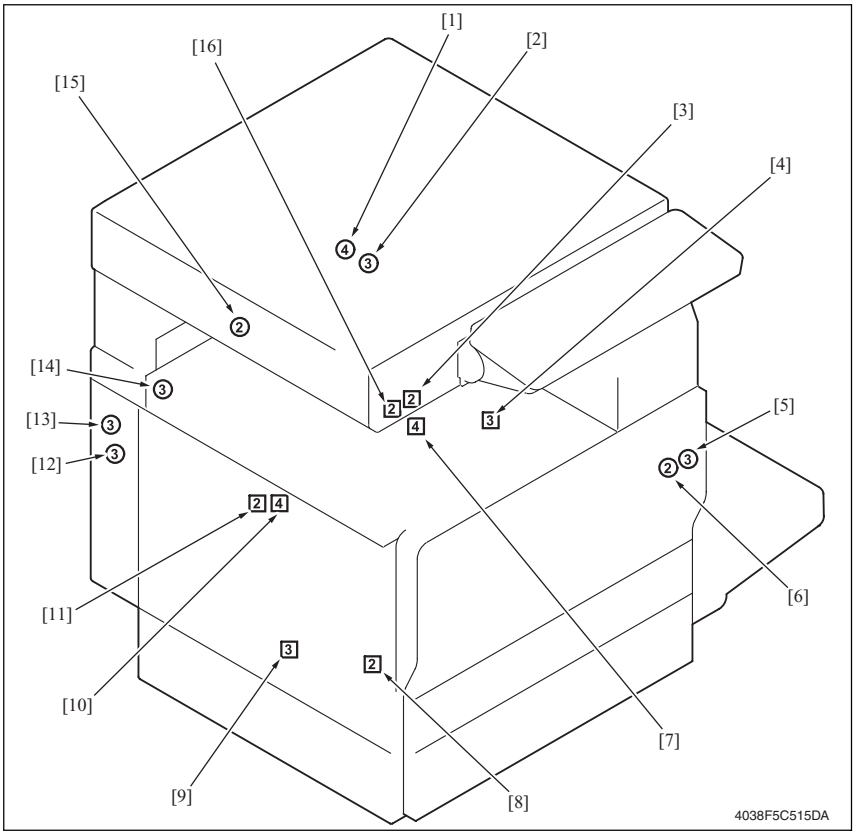
[1] Entrance Switching Solenoid (SL1-HO)
[2] Turnover Empty Sensor (PC6-HO)
[3] Paper Sensor (PC1-HO)
[4] Horizontal Unit Door Sensor (PC4-HO)

20. Connector layout drawing

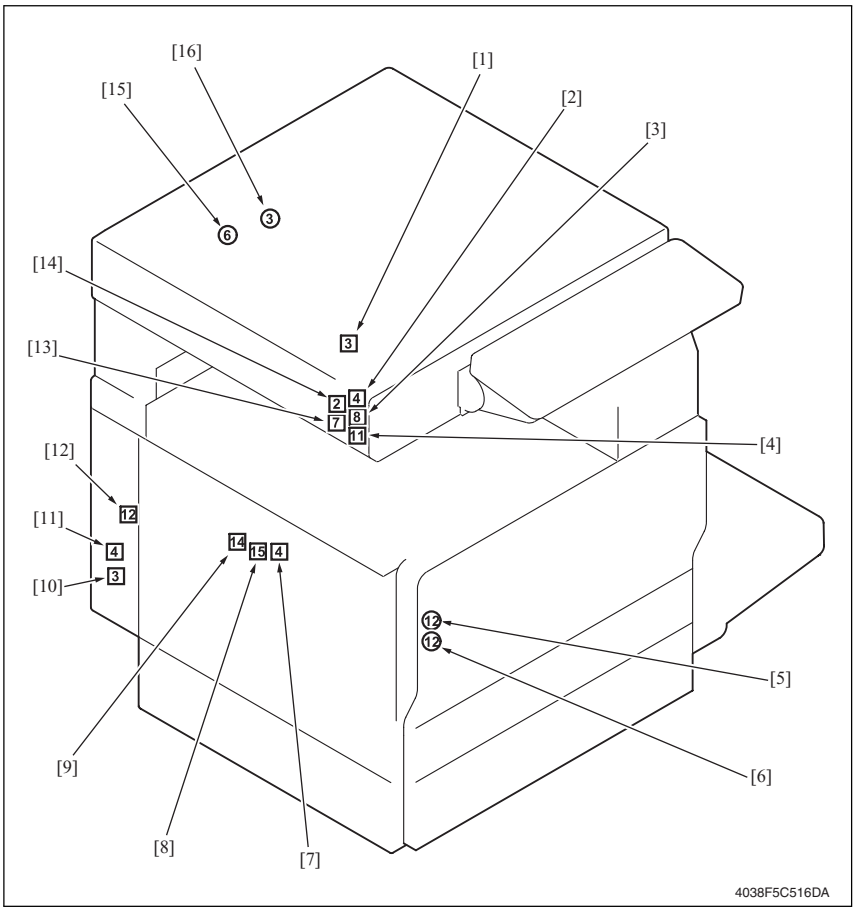
Description

Number of Pin → ① Possible to confirm by removing external cover.

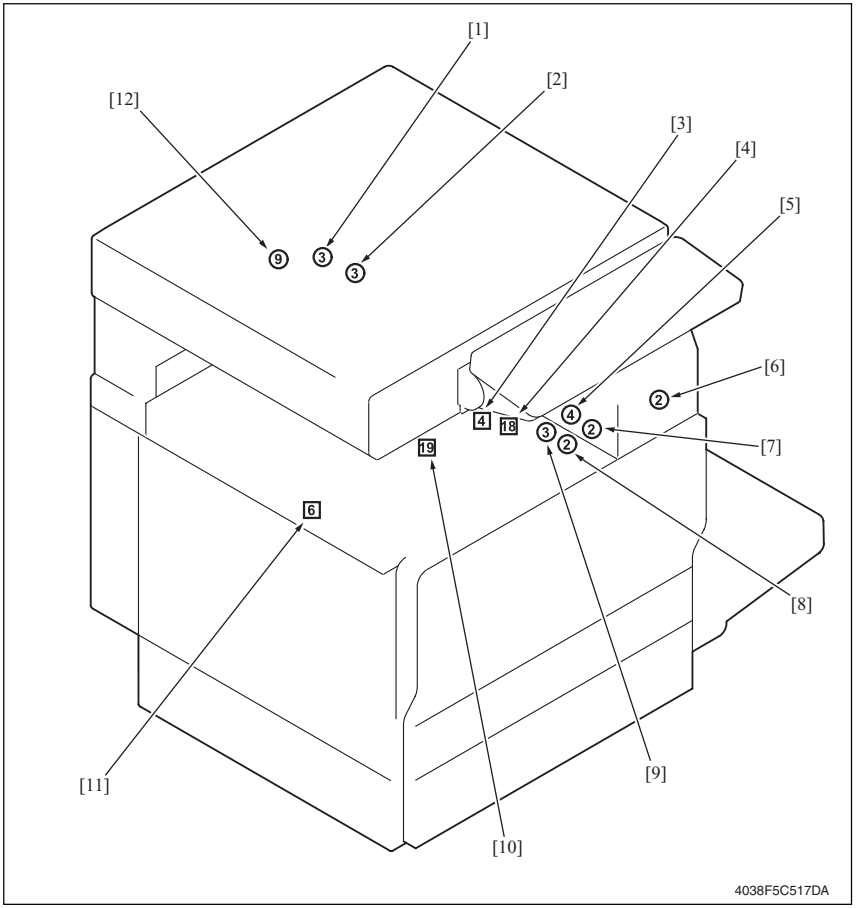
→ [1] Not possible to confirm by removing external cover.



No.	CN No.	Location	No.	CN No.	Location
[1]	CN57	U-14	[9]	CN7	E-25
[2]	CN80	K-3	[10]	CN101	N-24
[3]	CN43	E-10	[11]	CN84	Q-23
[4]	CN14	K to L-2	[12]	CN5	D-7
[5]	CN30	S-6	[13]	CN4	E-7
[6]	CN31	S-6 to 7	[14]	CN23	E-9
[7]	CN21	E-7	[15]	CN54	U-13
[8]	CN1	T-2	[16]	CN38	E-11



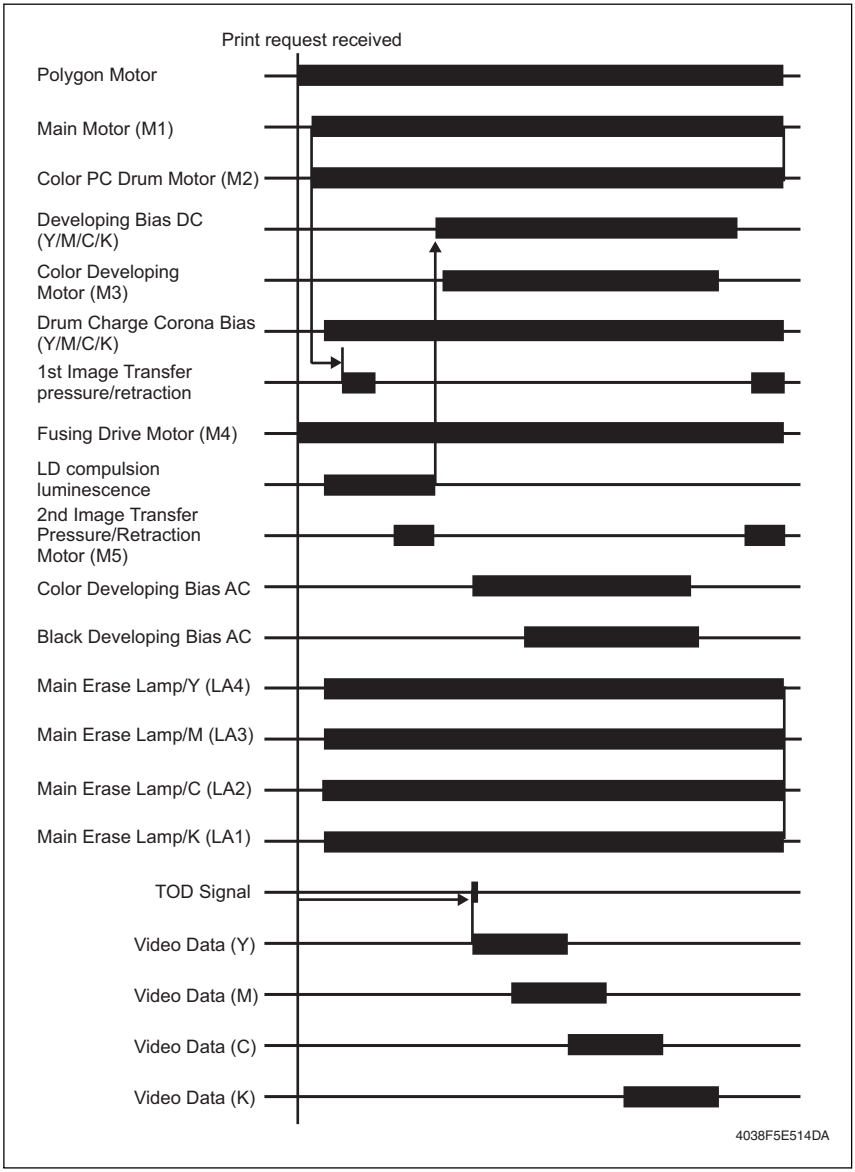
No.	CN No.	Location	No.	CN No.	Location
[1]	CN41	K-1	[9]	CN44	K-23 to 24
[2]	CN45	K-2	[10]	CN40	E-10
[3]	CN3	E-19	[11]	CN18	E-11
[4]	CN13	K-21 to 22	[12]	CN60	E-26 to 27
[5]	CN56	E-16	[13]	CN19	K-22
[6]	CN55	E-14	[14]	CN59	K-2
[7]	CN102	N-25	[15]	CN10	Y-8
[8]	CN107	Q to R-24 to 25	[16]	CN11	U-10 to 11



No.	CN No.	Location	No.	CN No.	Location
[1]	CN39	E-20	[7]	CN28	E-8
[2]	CN81	K to L-3	[8]	CN27	E-7 to 8
[3]	CN8	D-7	[9]	CN29	E-9
[4]	CN6	E-3 to 4	[10]	CN32	E-12
[5]	CN22	E-8	[11]	CN9	E-2
[6]	CN58	U-16	[12]	CN25	U-15

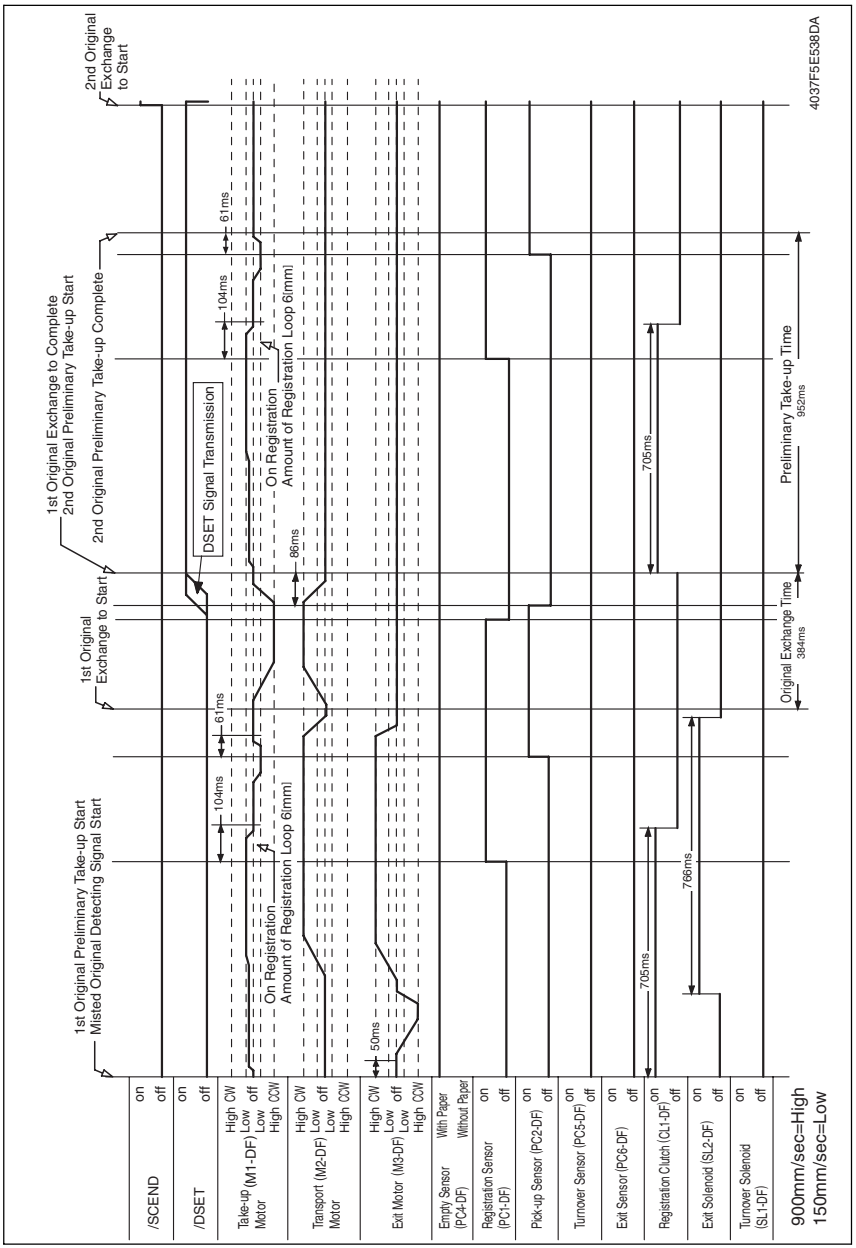
21. Timing chart

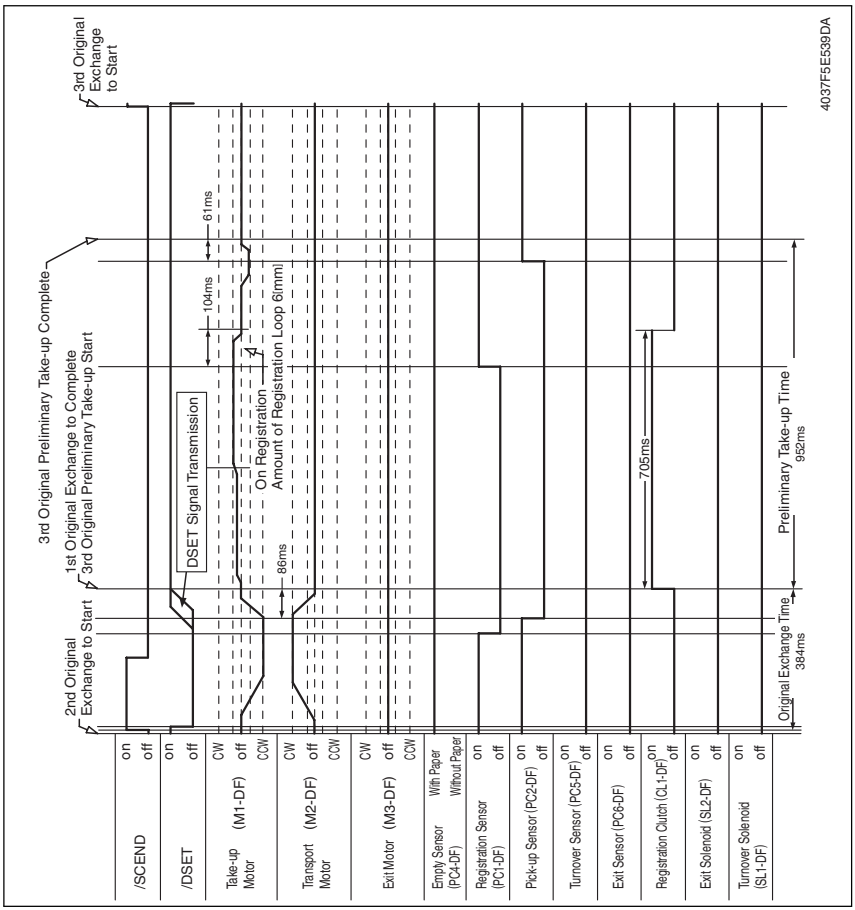
21.1 Main unit

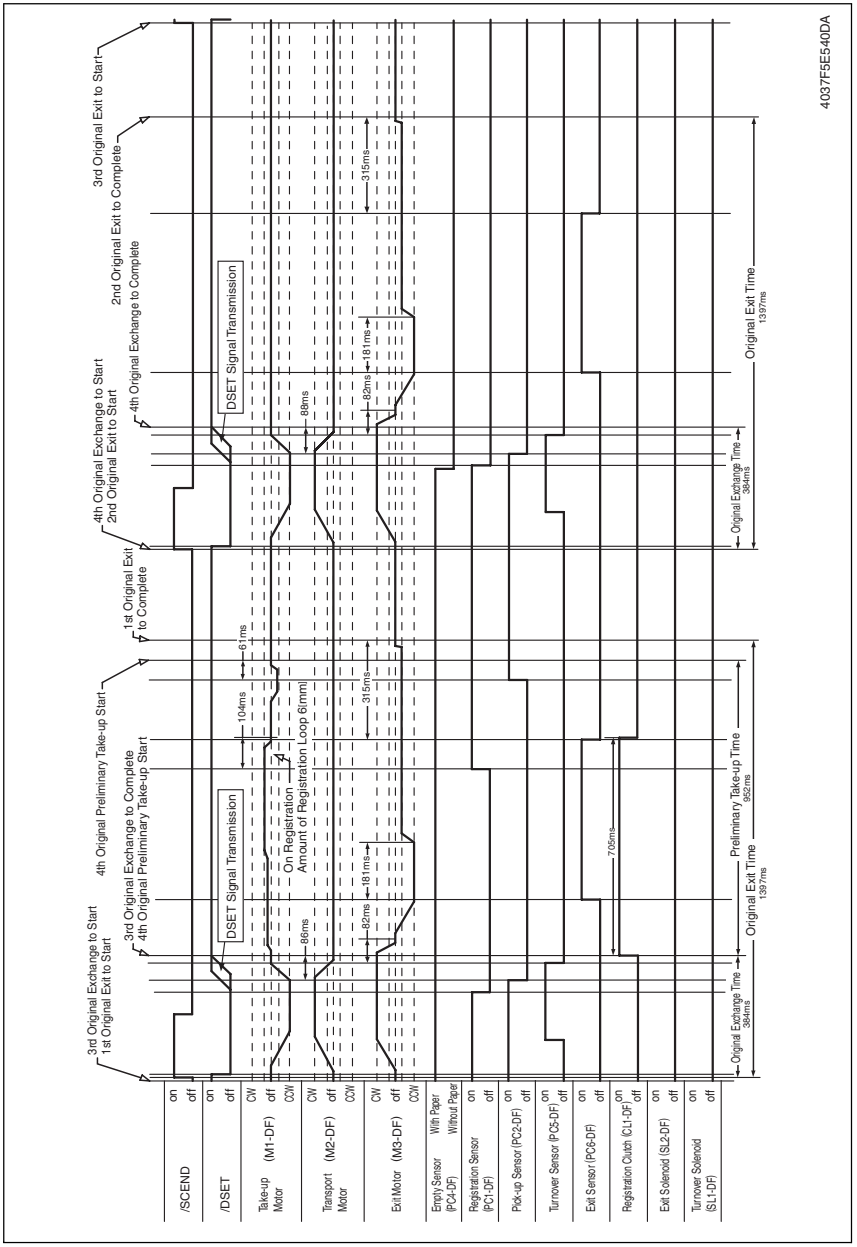


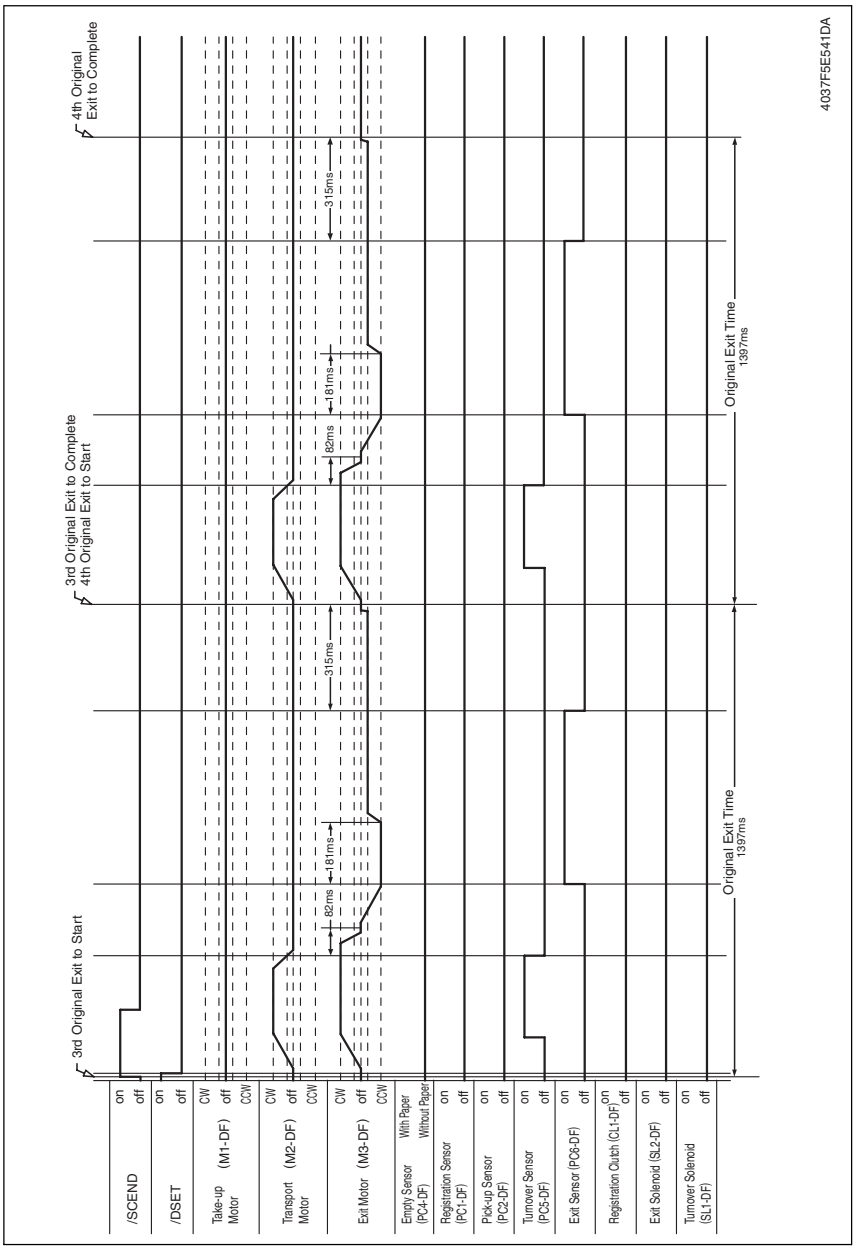
21.2 Automatic Document Feeder

1-sided mode

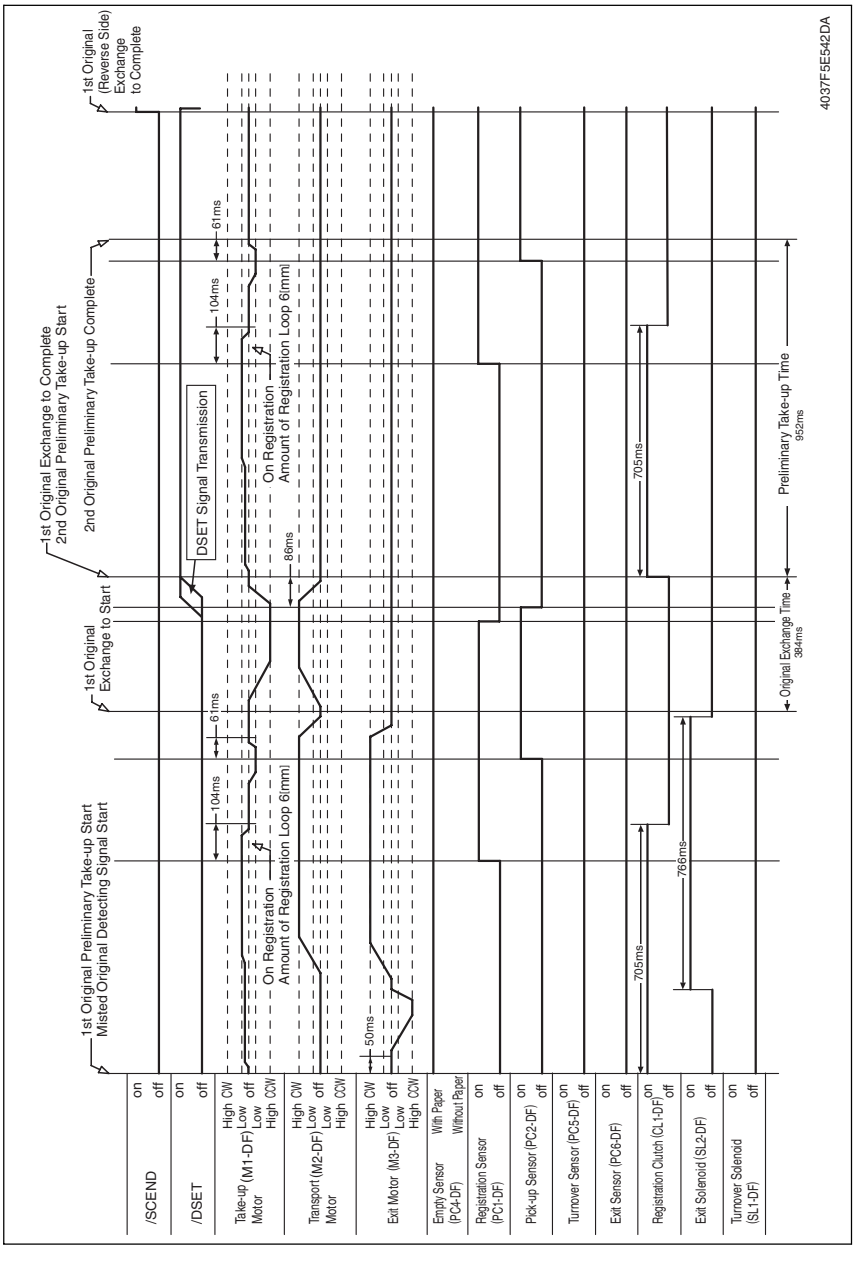


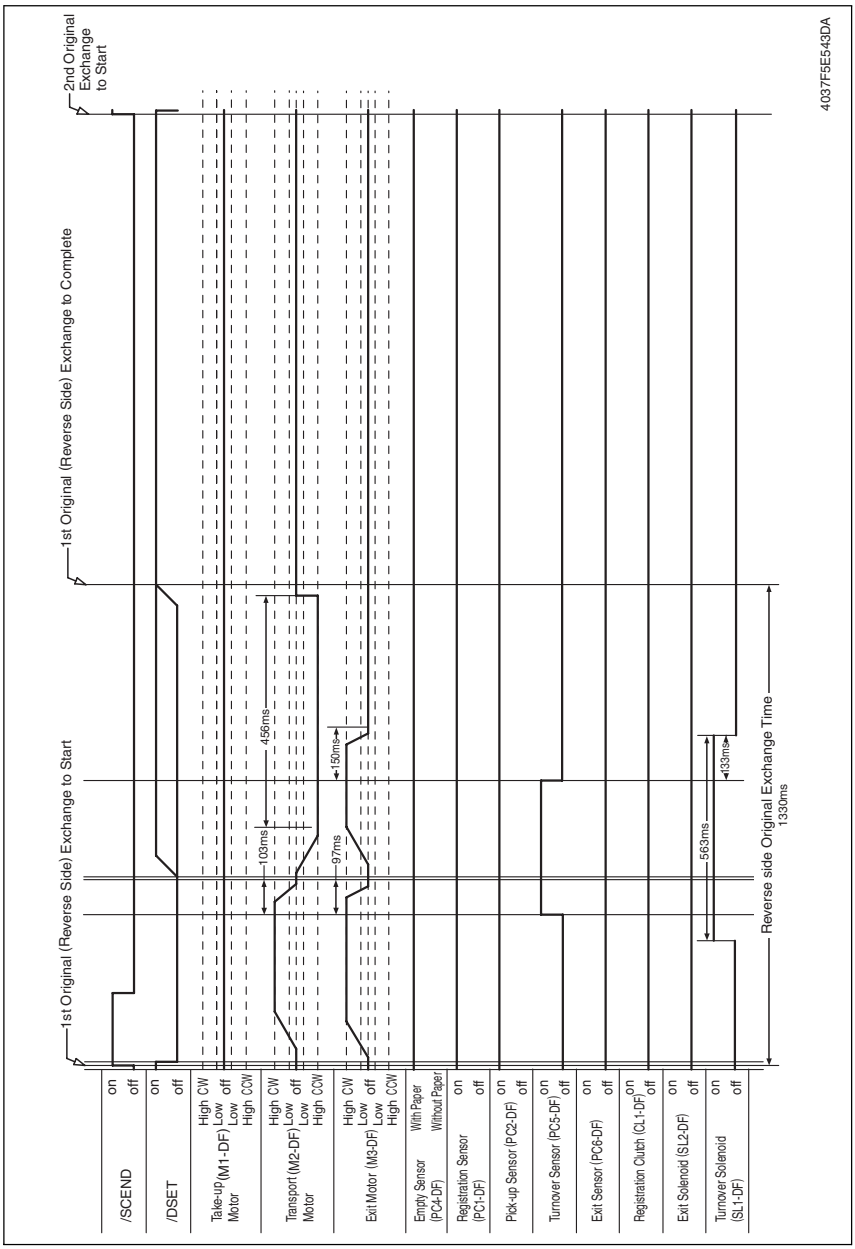

3rd Original Preliminary Take-up Complete
1st Original Exchange to Complete
3rd Original Preliminary Take-up Start
2nd Original Exchange to Start
3rd Original Exchange to Start
DSET Signal Transmission
104ms
61ms
86ms
On Registration Amount of Registration Loop 6(mm)
705ms
Preliminary Take-up Time 952ms
Original Exchange Time 384ms
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
4037F5E539DA

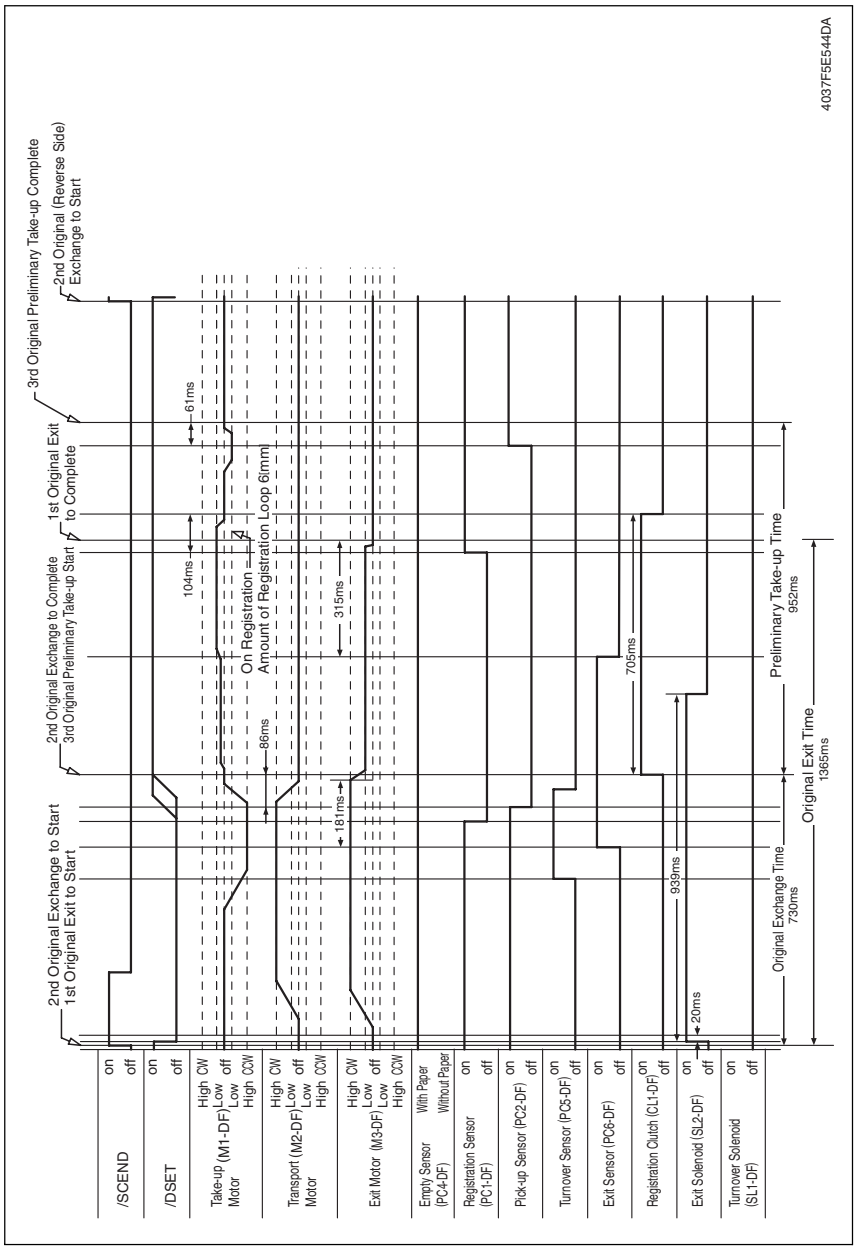

3rd Original Exchange to Start
1st Original Exit to Start
4th Original Preliminary Take-up Start
3rd Original Exchange to Complete
4th Original Preliminary Take-up Start
1st Original Exit to Complete
4th Original Exchange to Start
2nd Original Exit to Start
4th Original Exchange to Complete
2nd Original Exit to Complete
3rd Original Exit to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
DSET Signal Transmission
104ms
61ms
On Registration
Amount of Registration Loop 6(mm)
86ms
88ms
82ms
181ms
315ms
706ms
Original Exchange Time
384ms
Original Exit Time
1397ms
Preliminary Take-up Time
952ms
4037F5E540DA

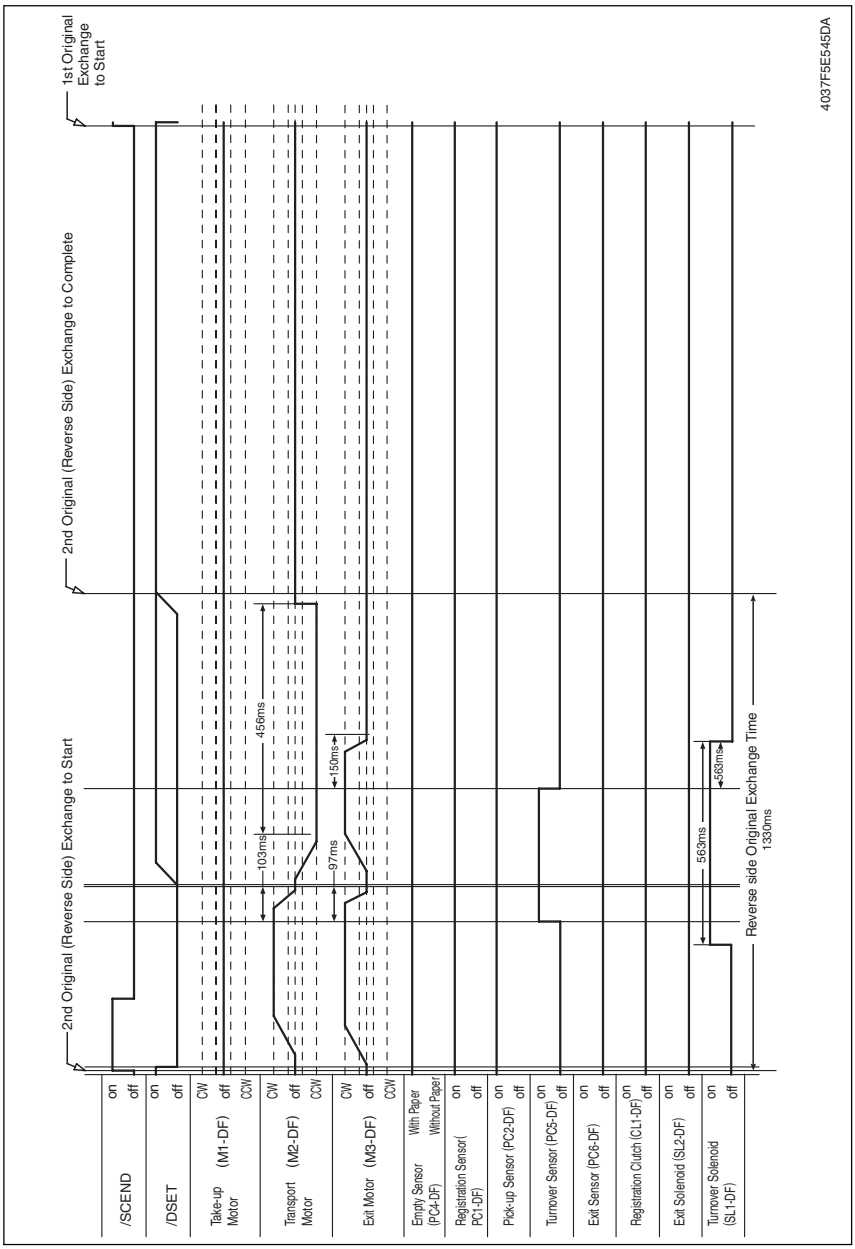

3rd Original Exit to Start
3rd Original Exit to Complete
4th Original Exit to Start
4th Original Exit to Complete
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
82ms
181ms
315ms
Original Exit Time
1397ms
4037F5E541DA

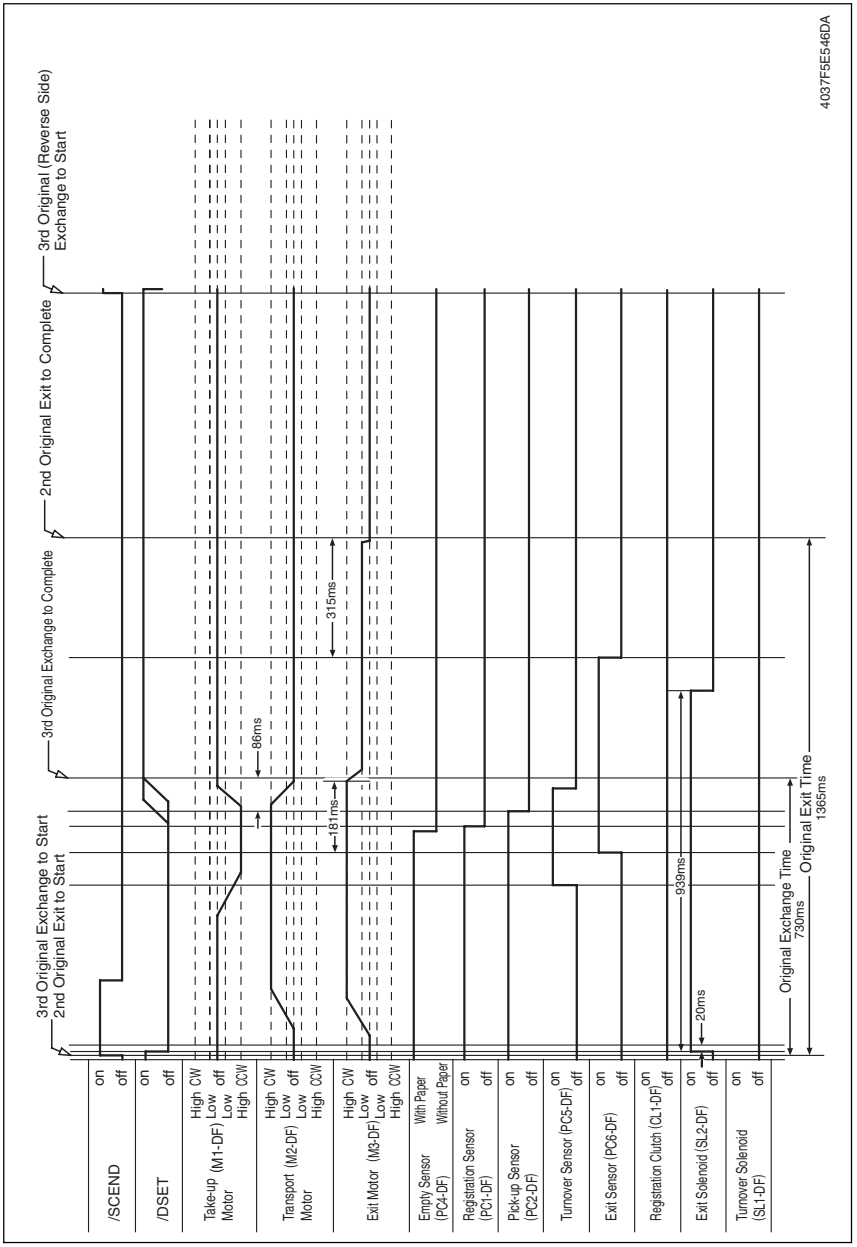
Mixed original detection mode

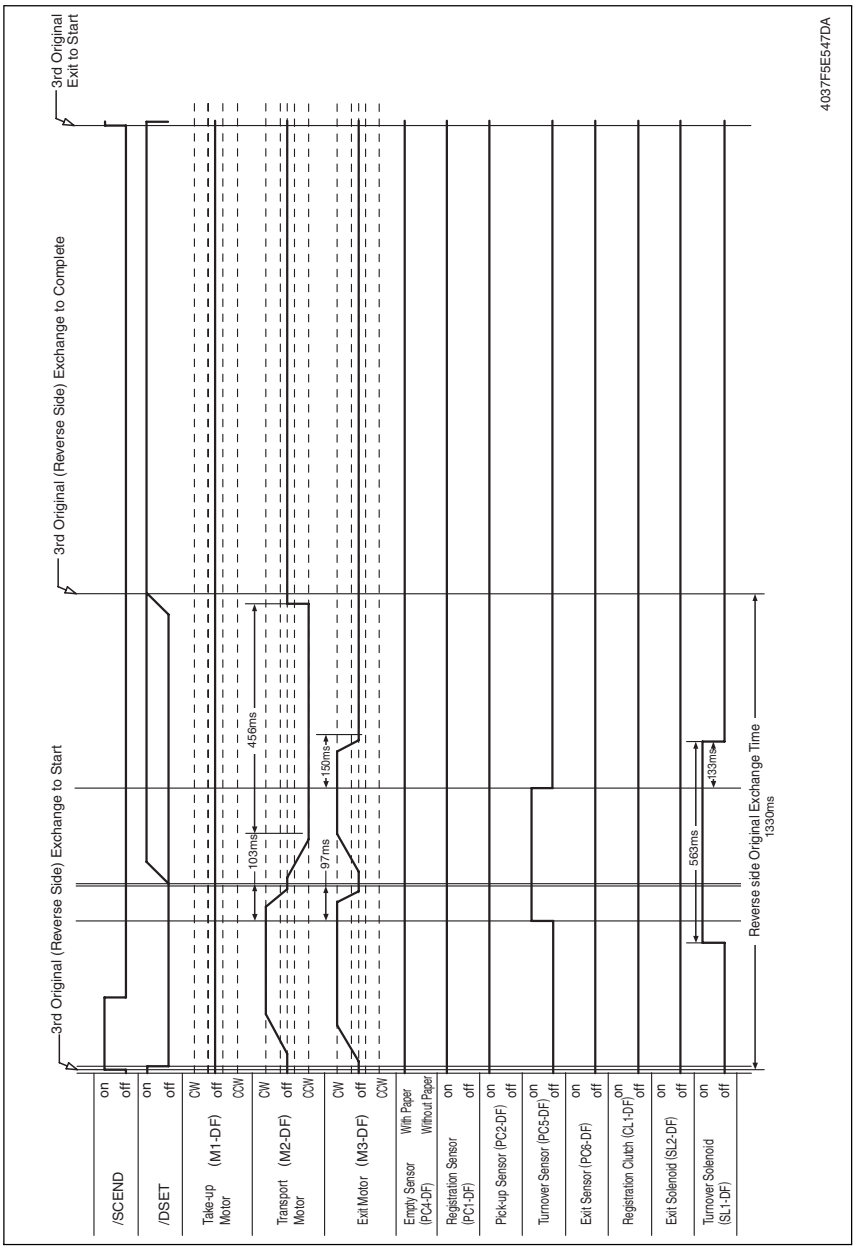


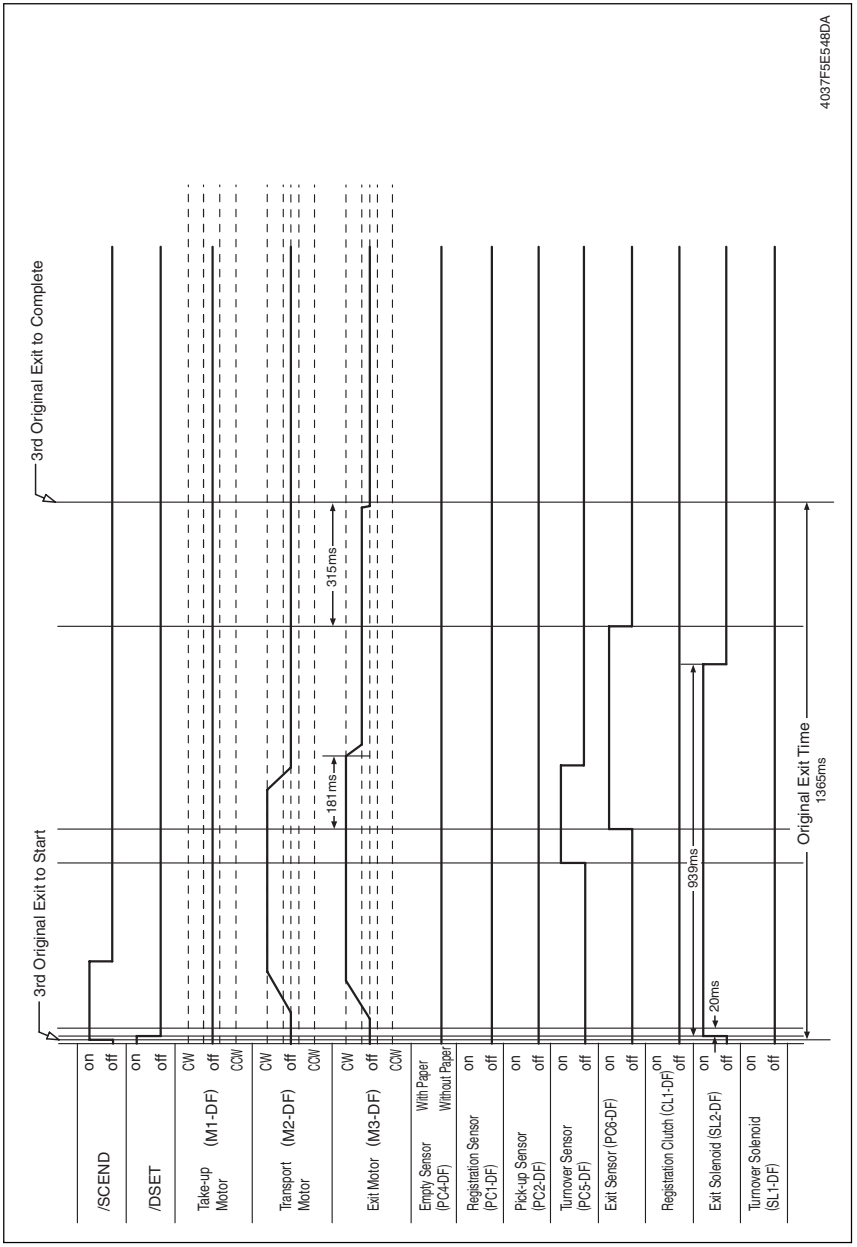

1st Original (Reverse Side) Exchange to Start
1st Original (Reverse Side) Exchange to Complete
2nd Original Exchange to Start
/SCEND
on
off
/DSET
on
off
Take-up Motor (M1-DF)
High CW
Low off
Low
High CCW
Transport (M2-DF) Motor
High CW
Low off
Low
High CCW
Exit Motor (M3-DF)
High CW
Low off
Low
High CCW
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
on
off
Pick-up Sensor (PC2-DF)
on
off
Turnover Sensor (PC5-DF)
on
off
Exit Sensor (PC6-DF)
on
off
Registration Clutch (CL1-DF)
on
off
Exit Solenoid (SL2-DF)
on
off
Turnover Solenoid (SL1-DF)
on
off
103ms
456ms
97ms
150ms
563ms
133ms
Reverse side Original Exchange Time
1330ms
4037F5E543DA


2nd Original Exchange to Start
1st Original Exit to Start
2nd Original Exchange to Complete
3rd Original Preliminary Take-up Start
1st Original Exit to Complete
3rd Original Preliminary Take-up Complete
2nd Original (Reverse Side) Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High CW
Low off
Low CCW
With Paper
Without Paper
104ms
61ms
86ms
On Registration
Amount of Registration Loop 6mm
181ms
315ms
705ms
939ms
20ms
Original Exchange Time
730ms
Original Exit Time
1365ms
Preliminary Take-up Time
952ms
4037F5E544DA


2nd Original (Reverse Side) Exchange to Start
2nd Original (Reverse Side) Exchange to Complete
1st Original Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor(PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
103ms
456ms
97ms
150ms
563ms
563ms
Reverse side Original Exchange Time
1330ms
4037F5E545DA


3rd Original Exchange to Start
2nd Original Exit to Start
3rd Original Exchange to Complete
2nd Original Exit to Complete
3rd Original (Reverse Side) Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registation Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High CW
Low
High CCW
With Paper
Without Paper
86ms
315ms
181ms
939ms
20ms
Original Exchange Time
730ms
Original Exit Time
1365ms
4037F5E546DA


3rd Original (Reverse Side) Exchange to Start
3rd Original (Reverse Side) Exchange to Complete
3rd Original Exit to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
103ms
456ms
97ms
150ms
583ms
133ms
Reverse side Original Exchange Time
1330ms
4037F5E547DA


3rd Original Exit to Start
3rd Original Exit to Complete
/SCEND
on
off
/DSET
on
off
Take-up Motor (M1-DF)
CW
off
CCW
Transport Motor (M2-DF)
CW
off
CCW
Exit Motor (M3-DF)
CW
off
CCW
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registation Sensor (PC1-DF)
on
off
Pick-up Sensor (PC2-DF)
on
off
Turnover Sensor (PC5-DF)
on
off
Exit Sensor (PC6-DF)
on
off
Registation Clutch (CL1-DF)
on
off
Exit Solenoid (SL2-DF)
on
off
Turnover Solenoid (SL1-DF)
on
off
181ms
315ms
939ms
20ms
Original Exit Time
1365ms
4037F5E548DA

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C250
Standard Controller

2005.07

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

Standard Controller

General

1. Controller specifications 1
1.1 Type 1
1.2 Supporting client specifications 2

Maintenance

2. Checking the controller firmware version 3
3. Firmware upgrade 3
3.1 Preparations for Firmware rewriting 3
3.1.1 Service environment 3
3.1.2 Application to be used 3
3.1.3 Installing the Cygwin 3
3.1.4 Writing into the Compact flash 7
3.2 Firmware rewriting 10
3.2.1 Updating method 10
3.2.2 Action When Data Transfer Fails 11

Adjustment/Setting

4. Checking the Image Controller Setting 13

Troubleshooting

5. Checking the system configuration 15
6. Status codes 15
7. Troubleshooting procedures 15
7.1 Unable to print over the network. 15
7.2 Unable to transmit data through Scan to FTP. 17
7.3 Unable to transmit data through Scan to E-Mail/Internet FAX. 18
7.4 E-mail does not reach the destination when transmission through Scan to E-Mail/Scan to Internet FAX is completed. 19

Blank Page

General

1. Controller specifications

1.1 Type

Type	Built-in type controller	
Print Speed	25 ppm (Color/B&W, A4 or 8-1/2 x 11 paper, and simplex) 23 ppm (Color/B&W, A4 or 8-1/2 x 11 paper, and duplex)	
Printer Language	PCL5e/c Emulation PCL6 (XL 2.1) Emulation PostScript 3 Emulation (3011.xx.xx)	
CPU	PPC750 FX 466 MHz	
Program ROM	64 MB	
RAM	512 MB	
Hard Disk	40 GB	
Host Interface	Standard: Ethernet (10Base-T or 100Base-TX) Optional: USB 1.1, USB 2.0, or IEEE 1284 *1	
Network Protocol	IPX/SPX (Auto, Ethernet II, 802.2, 802.3, 802.3 SNAP) NetBEUI, TCP/IP SMTP. POP3, FTP, SNMP, HTTP 1.1 DHCP, ARP/ICMP, BOOTP SLP, Apple Talk	
Network Print Service	Pserver (NDS) ... NetWare 4.x, 5.x, 6.x Pserver (Bindery) ... NetWare 4.x NDPS ... NetWare 5.x, 6.x SMB RAW Port Printing (Port 9100: To be changed from PageScope Light) IPP 1.1, LPD	
Network Scan Functions	Scan to FTP with URL Notification Scan to PC with URL Notification Scan to E-Mail Scan to HDD with URL Notification TWAIN	
Software Accessories (1) Driver CD	PCL6 Printer Driver, TWAIN Driver, Font Manager, BOX Utility OS: Windows98/98SE/Me, NT4.0, 2000, XP, Server2003	
Software Accessories (2)	PageScope Web Connection has been built into the controller firmware.	
Compatible Paper Size	Max. standard paper size A3 Wide	
Resolution	600 × 600 dpi	
Power Requirements	Shared with Main Unit	
Operating Environmental Requirements	10 - 30 °C 15 - 85 %	
Fonts	PCL	Latin 80 Fonts
	PS	Latin 136 Fonts
Options	Not available	

*1: The optional Local Interface Kit (EK-702) is required.

1.2 Supporting client specifications

PC	IBM PC and its compatible		
RAM	64 MB or more (128MB or more for XP)		
OS	Windows 98/98SE, Windows Me, Windows 2000, Windows XP, Windows NT 4.0, Windows Server 2003		
Interface	With a network connection	Connection method	Ethernet 10Base-T/100Base-TX
		Protocols	TCP/IP, NetBEUI, IPX/SPX (NetWare 4.x, 5.x, 6.x)
	With a local connection	USB 1.1/2.0 IEEE1284 (Compatible/Nibble/ECP)*1	
Browser	The following browser is required to use PageScope Web Connection: Netscape Communicator version 4.5 or later (Java-compliant) Internet Explorer version 5.5 or later (Java-compliant)		

*1:The optional Local Interface Kit (EK-702) is required.

NOTE

- **These specifications are subject to change without notice.**

Maintenance

2. Checking the controller firmware version

- The version of the controller firmware can be checked on the Control Panel of the machine.

1. Call the Service Mode to the screen.
2. Touch [Firmware Version].
3. Check the firmware versions.

3. Firmware upgrade

3.1 Preparations for Firmware rewriting

3.1.1 Service environment

- OS: Windows 2000
- Drive which enables writing/reading of Compact flash
- Compact flash (with 128MB or more)

3.1.2 Application to be used

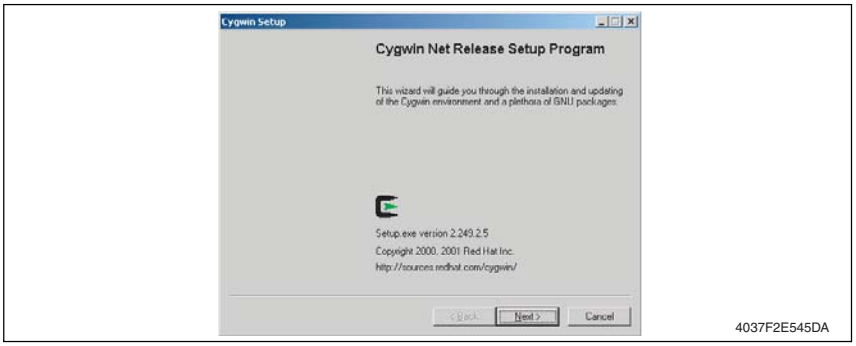
- Cygwin (Free software)

3.1.3 Installing the Cygwin

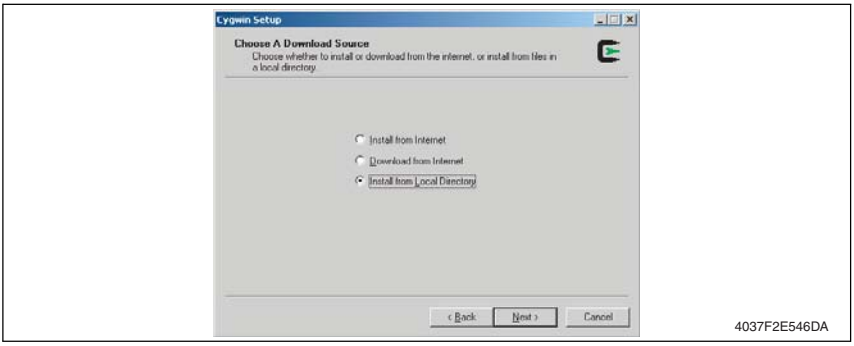
- The software for writing the Firmware into Compact flash is installed into the PC.

1. Double click the [setup.exe] on CD-ROM in which Cygwin is stored.

2. Click [Next (N)].


Cygwin Setup
Cygwin Net Release Setup Program
This wizard will guide you through the installation and updating of the Cygwin environment and a plethora of GNU packages.
Setup.exe version 2.249.2.5
Copyright 2000, 2001 Red Hat Inc.
http://sources.redhat.com/cygwin/
< Back
Next >
Cancel
4037F2E545DA

3. Select “Install from Local Directory”, and click [Next (N)].

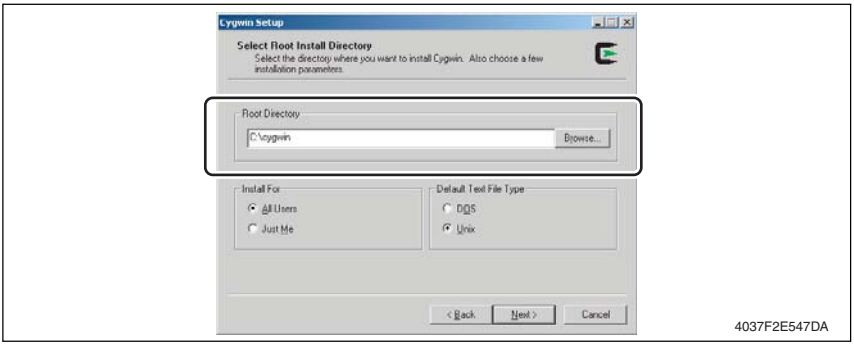

Cygwin Setup
Choose A Download Source
Choose whether to install or download from the internet, or install from files in a local directory.
Install from Internet
Download from Internet
Install from Local Directory
< Back
Next >
Cancel
4037F2E546DA

4. Specify the folder for installation.
Check to make sure that “Root Directory” is in default setting, [C:\cygwin].

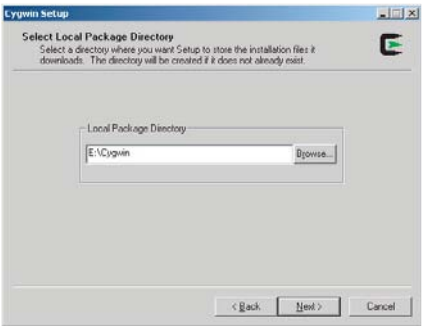
NOTE

- **Make sure to check that “Root Directory” is in default setting, [C:\cygwin].**
- **Do not change the setting value except “Root Directory.”**

5. Click [Next (N)].

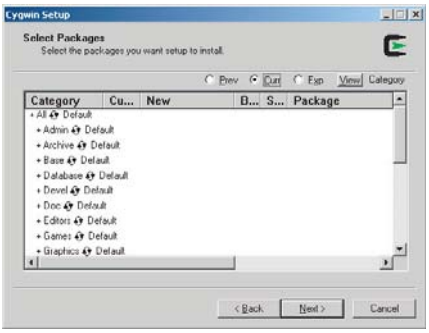


6. Specify the place of the data to be installed.
   For installing from CD-ROM, select the [cygwin] folder in CD-ROM drive.
   (Described below is the sample procedure when CD-ROM drive is E-drive.)
7. Click [Next (N)].


Cygwin Setup
Select Local Package Directory
Select a directory where you want Setup to store the installation files it downloads. The directory will be created if it does not already exist.
Local Package Directory
E:\Cygwin
Browse...
< Back
Next >
Cancel

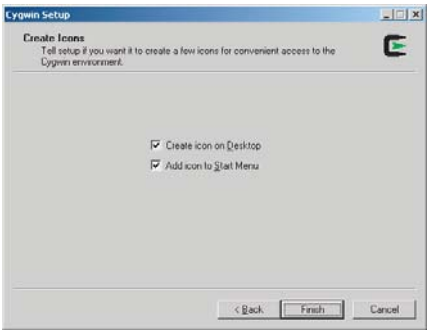
4037F2E548DA

8. Click [Next (N)].



4037F2E549DA

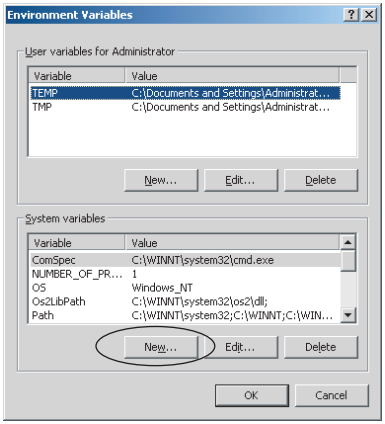
9. Click [Complete] to start installing.


Cygwin Setup
Create Icons
Tell setup if you want it to create a few icons for convenient access to the Cygwin environment.
Create icon on Desktop
Add icon to Start Menu
< Back
Finish
Cancel

4037F2E550DA

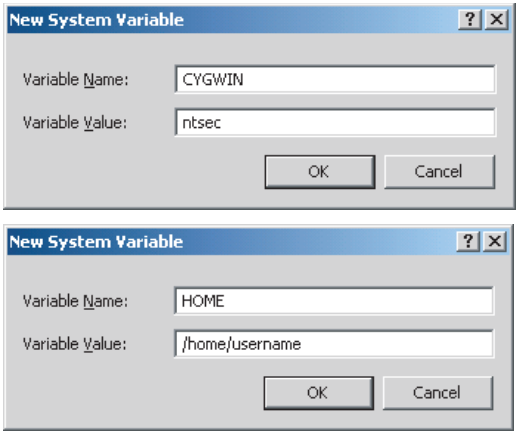
10. After installing, open the Property of “My Computer”, and click the “Environmental Variable” of “Advanced” tab.

11. Click the “New” in System Variable Setting.



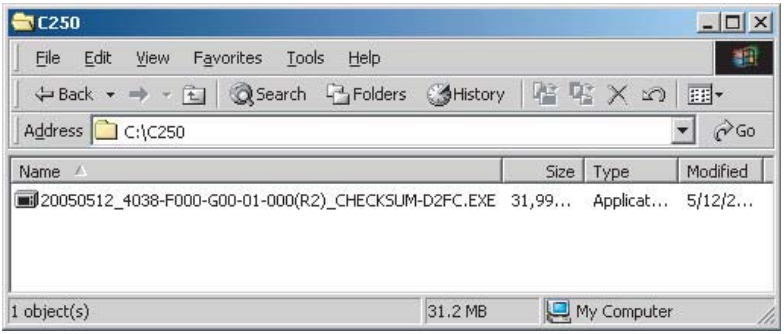
12. Set the following two values as the Windows Environmental Variable.

Variable name	Variable value
CYGWIN	ntsec
HOME	/home/username



3.1.4 Writing into the Compact flash

1. Put the data of Firmware in the optional directory. (C:\C250 in the below figure)

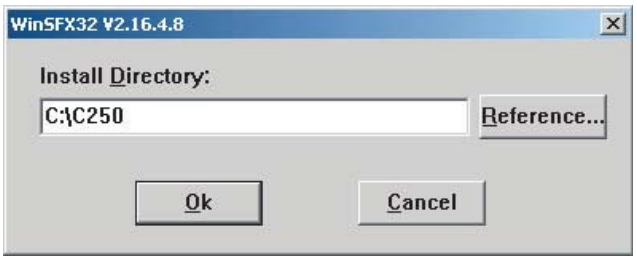


4038F2E562DA

NOTE

- **The file name of Firmware data consists of the "Release Date_Version_CHECKSUM-****.exe."**

2. Double-click the Firmware data, and specify the directory to be uncompressed, and then uncompress it.

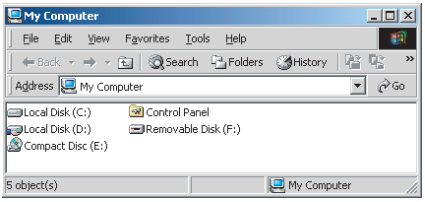


4038F2E563DA

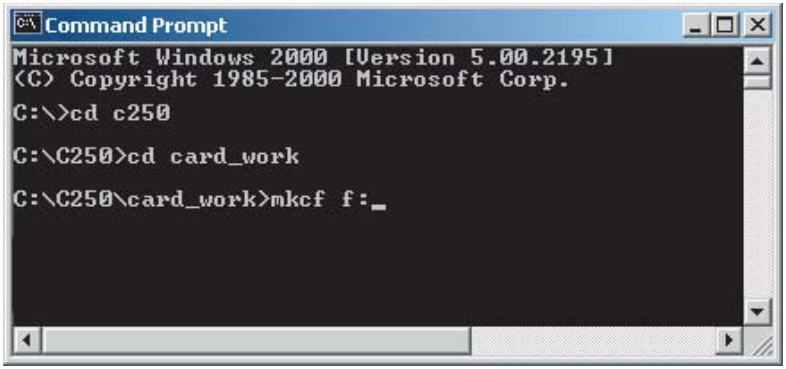
NOTE

- **When old Firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

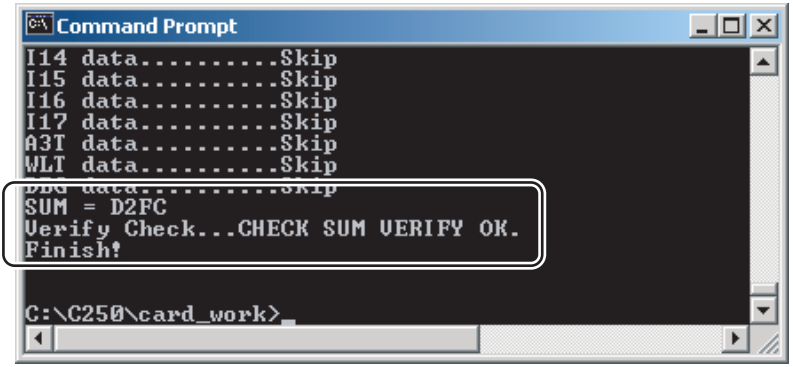
3. Mount the Compact flash on the PC, and check the Drive name, which was recognized in the Windows. (F-drive in the following figure)



4. Click [Start] → [Program] → [Accessories] → [Command Prompt] to open the Command Prompt.
5. Use the Command prompt to move into the uncompressed directory.
6. Specify the Drive of Compact flash, which was recognized through the procedure 3, and execute the “mkcf.bat.” (Input the C: \C250\card_work>mkcf f (Drive number): in the below figure, and push the “Enter”.)



7. Once the “mkcf.bat” is executed, data writing into the Compact flash is started.
8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERIFY OK” appears.



4038F2E565DA

9. Remove the Compact flash from PC.

NOTE

- **When removing the Compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

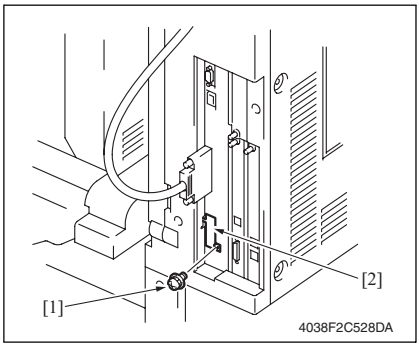
3.2 Firmware rewriting

- The F/W is updated using the Compact flash.

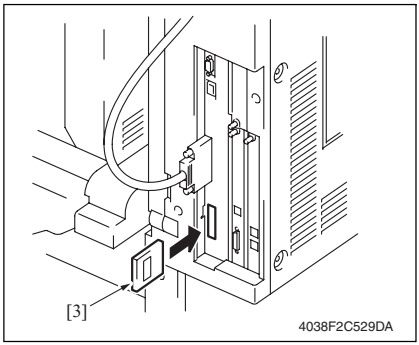
3.2.1 Updating method

NOTE

- **NEVER remove or insert the Compact Flash card with the machine power turned ON.**

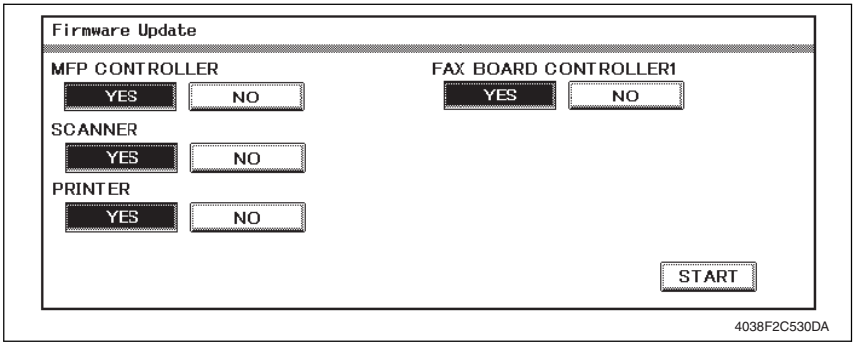


1. Open the Front Door, and turn OFF the Main Power Switch.
2. Remove the screw [1] and the Metal Blanking Plate [2].



3. Insert the Compact Flash card [3] into the slot.

4. Turn ON the Main Power Switch and Auxiliary Power Button.
5. Control Panel shows up to four types of F/W to be updated.
6. Select the particular type of F/W to be updated. (Select [YES].)



F/W to be updated	Appropriate board
MFP CONTROLLER	MFP Control Board (PWB-MFP)

7. Press the [START]. (At this time, the Start key starts blinking red.)
8. Check that the Touch Panel shows the message indicating that the data has been rewritten correctly ([Downloading Completed]). Check also the Check Sum value ([Check Sum XXXX]) shown on the Touch Panel. (The Start key blinks green.)
9. Turn OFF the Main Power Switch.
10. Remove the Compact Flash card from the slot.
11. Turn ON the Main Power Switch, and close the Front Door.
12. Call the Service Mode to the screen.
13. Select [Firmware Version].
14. Make sure if the version of Firmware is updated.

3.2.2 Action When Data Transfer Fails

- If “NG” appears on the Touch Panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the Compact flash for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

MFP CONTROLLER	MFP Control Board (PWB-MFP)

Blank Page

Adjustment/Setting

4. Checking the Image Controller Setting

- Whenever the controller is mounted, it is necessary to select “Controller 0” in [Image Controller Setting].

1. Call the Service Mode to the screen.
2. Touch [System 2].
3. Check that “Controller 0” is selected in [Image Controller Setting].

NOTE

- **If the setting is changed, be sure to turn OFF the Main Power Switch and turn it ON again more than 10 seconds after. The change of the setting becomes valid when the Main Power Switch is turned OFF and ON after the appropriate change has been made on the panel.**

A. Note on returning the setting from “Controller 1” to “Controller 0.”

- Selecting “Controller 0” will initialize the following settings made while “Controller 1” was selected. Reset the following items as necessary when using the Internal Standard Controller.

<Control Panel on the machine>

- Setting items included in [Network Setting] available from [Administrator Setting]. (Except [Status Notification Setting] and [Prefix/Suffix Setting] available from the following setting. [Administrator Setting] - [Network Setting] - [Detail Setting].)
- [Administrator Setting]-[User Authentication/Account Track]-[General Settings]-[External Server]
- [Administrator Setting]-[System Connection]-[IS OpenAPI Setting]

<PageScope Web Connection>

- SSL/TLS

Blank Page

Troubleshooting

5. Checking the system configuration

- When a malfunction occurs, let the printer print a Configuration Page to check for system configuration.

1. Press the Utility/Counter key.
2. Touch [User Setting] → [Printer Setting] → [Print Reports].
3. Touch [Configuration Page] and press the Start key.

6. Status codes

Code	Description	Action
C-A051	Standard controller configuration failure	Change the MFP Control Board (PWB-MFP).
C-A052	Faulty controller hardware	Change the MFP Control Board (PWB-MFP).
C-A053	Controller start failure	Change the MFP Control Board (PWB-MFP) if the problem occurs again when turning OFF the Main Power Switch and turn it ON again more than 10 seconds after.

☞ For details of how to replace the MFP Control Board, see the C250 Main Unit Service Manual

7. Troubleshooting procedures

7.1 Unable to print over the network.

	Check		Possible Cause	Action	Remark
1	Is the print job displayed on the machine control panel?	Yes	An error on machine side (paper running out, toner running out, etc.)	Correct the error.	See “User’s Guide [Copy Operations]” of the machine.
			Waiting its turn	Check the machine control panel for jobs in print queue. Priority may be changed as necessary.	
			The job is locked.	Enter the password to unlock the job.	See “User’s Guide [Print Operations].”
			The correct division ID has not been entered.	Enter the correct division ID in the printer driver and try re-transmitting the job again. (access code)	
		No	Data is yet to be received.	Go to item 2.	

	Check		Possible Cause	Action	Remark
2	Is the response of Ping sent from the PC to the machine?	Yes	The print destination port setting is wrong.	Set the correct port.	See “User’s Guide [Print Operations].”
			PC operates erratically temporarily.	Restart the PC.	
			Printer driver incorrectly installed	Uninstall the printer driver through the proper steps and then reinstall it properly.	See “User’s Guide [Print Operations].”
		No	Controller board (MFP Control Board) operates erratically temporarily.	Restart the controller board.	Turn OFF the Main Power Switch and turn it ON again more than 10 seconds after.
			Network cable is disconnected or a relay device is faulty.	Reconnect the cable and restart or change the faulty relay device.	Check with the controller network LED.
			IP address and/or subnet mask incorrectly set.	Set the correct IP address and subnet mask.	See “TCP/IP Setting” in Installation Guide.

7.2 Unable to transmit data through Scan to FTP.

	Check	Possible Cause	Action	Remark
1	The message “Failed to connect to the destination” appears.	The FTP server is not in service.	Check with the network administrator.	
		IP address of the FTP server is wrong.	Check with the network administrator and enter the correct IP address.	See “User’s Guide [Network Scanner Operations].”
		Proxy setting is wrong.	Check with the network administrator and make the correct proxy setting.	
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A directory not existing in the FTP server is specified.	Check with the network administrator and enter the correct directory.	
		Failed to log on to the FTP server because of the wrong user account.	Check with the network administrator and enter the correct user name and password.	
		A timeout condition occurs.	Set a longer value for “FTP Connection Timeout.” The timeout value depends on the network’s traffic conditions and load on the FTP server.	
2	The message “Server Connect error” appears.	The network is disconnected during file transfer.	Send Ping from PC to the controller and FTP server to check to see if both parties are connected to the network or not.	
		The FTP server hard disk becomes full during file transfer.	Check with the network administrator.	
		The FTP server stops during file transfer.	Check with the network administrator.	

7.3 Unable to transmit data through Scan to E-Mail/Internet FAX.

	Check	Possible Cause	Action	Remark
1	The message "Server Connect error" appears.	The SMTP server is not in service.	Check with the network administrator.	
		IP address of the SMTP server is wrong.	Check with the network administrator and enter the correct IP address.	See "User's Guide [Network Scanner Operations]."
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A timeout condition occurs.	Set a longer value for "SMTP Connection Timeout." The timeout value depends on the network's traffic conditions and load on the FTP server.	
		The network is disconnected during file transfer.	Send Ping from PC to the controller and SMTP server to check to see if both parties are connected to the network or not.	
2	The message "E-mail Size Over" appears.	The size of the scan data exceeds the upper limit value set for Maximum E-Mail Size.	Decrease resolution to make small the data size or change the setting for Scanned File Separation and Binary Division as necessary so that the scan data does not exceed the Maximum E-Mail Size.	See "User's Guide [Network Scanner Operations]."

7.4 E-mail does not reach the destination when transmission through Scan to E-Mail/Scan to Internet FAX is completed.

	Check		Possible Cause	Action	Remark
1	An error message is returned from the mail server.	Yes	The destination mail address is wrong.	Enter the correct mail address.	See “User’s Guide [Network Scanner Operations].”
		No	The receiving end is being unable to receive, or is not receiving, mail stored in the POP3 server.		

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

DF-601

2005.07
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

DF-601

General

1. Product specifications 1
2. Mixed original feed 3
2.1 Mixed original feed chart 3
2.2 Paper feed prohibited originals 4
2.3 Paper feed not guaranteed originals 4

Maintenance

3. Periodical check 5
3.1 Maintenance procedure (Periodical check parts) 5
3.1.1 Transport Belt 5
3.1.2 Pick-up Roller / Paper Take-up Roller 6
3.1.3 Separation Roller 7
3.1.4 Pick-up Roller / Paper Take-up Roller / Separation Roller 8
3.1.5 Registration Roller 8
3.1.6 Exit Roller / Roll 9
3.1.7 Turnover Roller 9
3.1.8 Sensor Section 9
4. Other 11
4.1 Disassembly/Adjustment prohibited items 11
4.2 Disassembly/Assembly list (Other parts) 12
4.3 Disassembly/Assembly procedure 12
4.3.1 Front Cover/Rear Cover 12

Adjustment/Setting

5. How to use the adjustment section 13
6. Service / Test Mode 14
6.1 Service Mode setting procedure 14
6.2 Type of the Service Mode 14
6.3 ADF Paper Passage 15
7. Sensor Check 16
7.1 Check procedure 16
7.2 Sensor check list 16
7.2.1 Sensor check screen 16

8. Mechanical adjustment 18
8.1 Adjustment of the tray volume 18
8.2 Adjustment of the document edge guide reference position 19
8.3 Adjustment of the document skew 20
8.4 Adjustment of the document stop position 21
8.4.1 Auto adjust: Sub Scanning Direction 1-Sided Stop Position 21
8.4.2 Auto adjust: Sub Scanning Direction 2-Sided stop position 22
8.4.3 Auto adjust: Main Scanning Direction Image scan start position 23
8.4.4 Manual adjust: Sub Scanning Direction 1-Sided / 2-Sided document stop position adjustment 24
8.4.5 Manual adjust: Main Scanning Direction Image scan position adjustment 25
8.5 Adjustment of the loop value 26
8.6 Automatic adjustment of the sensor 27

Troubleshooting

9. Jam Display 29
9.1 Initial check items 29
9.2 Misfeed display 29
9.2.1 Misfeed display resetting procedure 29
9.3 Sensor layout 30
9.4 Solution 30
9.4.1 Paper Exit / Turnover section misfeed 30
9.4.2 Paper Take-Up section misfeed 31
9.4.3 Transport section misfeed 32
9.4.4 Transport Tray section misfeed 33
10. Set error detection 34

General

1. Product specifications

A. Type

Name	Duplexing Document Feeder	
Type	Paper Take-Up	Paper Take-Up from top of stack
	Transport	Endless Belt Transport Mode
	Turnover	Loop Turnover Mode
	Paper Exit	U-turn Turnover + Switchback U-Turn Turnover Mode (only in 1-Sided Mode)
Installation	Screw cramp to the main unit	
Document Alignment	Center	
Document Loading	Face up	

B. Functions

Modes	Standard Mode	1-Sided Mode / 2-Sided Mode
	Thick Paper Mode	1-Sided Mode
	Mixed Original Detection Mode	1-Sided Mode / 2-Sided Mode

C. Paper type

Type of Document	Standard Mode Plain Paper	1-Sided Mode 35 to 128 g/m^2 (9-1/4 to 34 lb)
		2-Sided Mode 50 to 110 g/m^2 (13-1/4 to 29-1/4 lb)
	Thick Paper Mode Plain Paper	1-Sided Mode 129 to 210 g/m^2 (34-1/4 to 55-3/4 lb)
	Mixed Original Detection Mode Plain Paper	1-Sided / 2-Sided Mode 50 to 110 g/m^2 (13-1/4 to 29-1/4 lb)
Detectable Document Size*1	Metric area B6R to A3 Inch area 5-1/2 × 8-1/2R / 5-1/2 × 8-1/2 to 11 × 17	
Capacity	Standard Mode / Mixed Original Detection Mode	Document Feed Table: 100 sheets (80 g/m^2, 21-1/4 lb)
		Original Exit Tray: 100 sheets (80 g/m^2, 21-1/4 lb)
	Thick Paper Mode	Document Feed Table: 38 sheets (210 g/m^2, 55-3/4 lb)
		Original Exit Tray: 38 sheets (210 g/m^2, 55-3/4 lb)

*1: For the Combined Original Detection Mode, Refer to the Mixed Original Detection Enabled Size Combination Table.

D. Machine specifications

Power Requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated within the DF-601)
Max. Power Consumption	60 W or less
Dimensions	586 mm (W) × 519 mm (D) × 135 mm (H) 23 inch (W) × 20-1/2 inch (D) × 5-1/4 inch (H)
Weight	14.2 kg (31.25 lb)

E. Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

2. Mixed original feed

2.1 Mixed original feed chart

For Metric

	Max. Original Size	297 mm		257 mm		210 mm		182 mm	148 mm
Mixed Original Size		A3	A4	B4	B5	A4R	A5	B5R	A5R
297 mm	A3	OK	OK	-	-	-	-	-	-
	A4	OK	OK	-	-	-	-	-	-
257 mm	B4	OK	OK	OK	OK	-	-	-	-
	B5	OK	OK	OK	OK	-	-	-	-
210 mm	A4R	OK	OK	OK	OK	OK	OK	-	-
	A5	NG	NG	OK	OK	OK	OK	-	-
182 mm	B5R	NG	NG	OK	OK	OK	OK	OK	-
148 mm	A5R	NG	NG	NG	NG	NG	NG	OK	OK

For Inch

	Max. Original Size	11		8-1/2			5-1/2
Mixed Original Size		11 × 17	8-1/2 × 11	8-1/2 × 14	8-1/2 × 11R	5-1/2 × 8-1/2	5-1/2 × 8-1/2R
11	11 × 17	OK	OK	-	-	-	-
	8-1/2 × 11	OK	OK	-	-	-	-
8-1/2	8-1/2 × 14	OK	OK	OK	OK	OK	-
	8-1/2 × 11R	OK	OK	OK	OK	OK	-
	5-1/2 × 8-1/2	NG	NG	OK	OK	OK	-
5-1/2	5-1/2 × 8-1/2R	NG	NG	NG	NG	NG	OK

OK	Mixed Original Feed available (Tilted with in 1.5% or less)
NG	NO. Mixed Original Feed
-	Can not Set Original

2.2 Paper feed prohibited originals

- If fed, trouble occurrence will be highly possible.

Type of Original	Possible Trouble
Sheets stapled or clipped together	Take-up failure, damaged sheet, defective drive mechanism due to jammed staples or clips
Sheets glued together	Take-up failure, damaged sheet
Sheets of 211g/m^2 (56-1/4 lb) or more	Take-up failure
Sheets of 110g/m^2 (29-1/4 lb) or more in 2-Sided Mode	Take-up failure
Sheets folded, torn or wrinkled	Take-up failure, damaged sheet
Sheets severely curled	Sheets misfed due to being dog-eared or fed in askew
OHP Film (Transparency Film)	Take-up failure
Label Paper	Take-up failure
Offset Master Paper	Take-up failure
Sheets clipped or notched	Damaged sheet
Sheets patched	Patched part folded or torn sheet

2.3 Paper feed not guaranteed originals

- If fed, paper feed will be possible to some extent but trouble occurrence will be possible.

Type of Original	Possible Trouble
Sheets lightly curled (Curled amount: 10 - 15 mm)	Dog-eared, exit failure
Heat Sensitive Paper	Edge folded, exit failure, transport failure
Ink Jet Paper	Take-up failure, transport failure
Sheets with smooth surface (Coated Paper)	Take-up failure, transport failure
Intermediate paper	Take-up failure, transport failure
Paper immediately after paper exit from the main unit	Take-up failure, transport failure
Paper with many punched holes (e.g., loose leaf) limited to vertical feeding	Multi-page feed due to flashes from holes
Sheets with 2 to 4 holes	Transport failure
Sheets two-folded or Z-folded (A3 or 11 × 17)	Transport failure, image deformation
Sheets with rough surface (e.g., letterhead)	Take-up failure
Sheets penciled	Contamination
Sheets folded	Image deformation, multi-page feed, take-up failure
Sheets other than detectable-size sheets	Image deficit

Maintenance

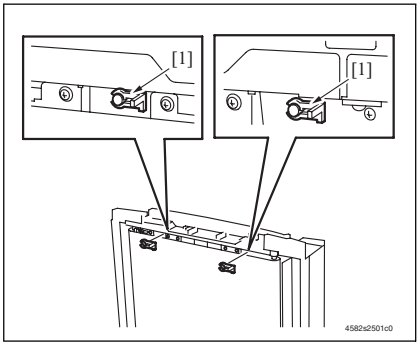
3. Periodical check

3.1 Maintenance procedure (Periodical check parts)

NOTE

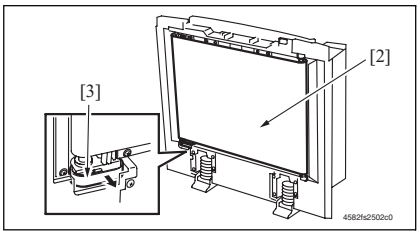
- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

3.1.1 Transport Belt

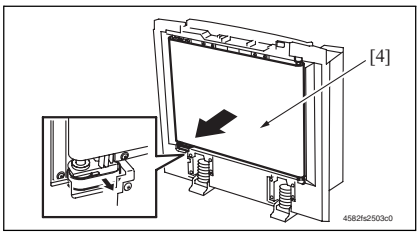


A. Replacing procedure

1. Remove two C-clips [1].



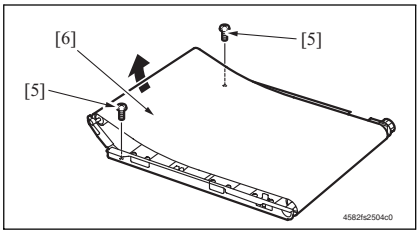
2. Remove the Transport Belt Roller Assy [2] from the belt [3] connected.



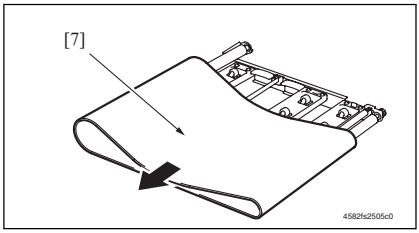
3. Pull out and remove the Transport Belt Roller Assy [4].

NOTE

- **In reassembling, ensure that the Transport Belt Roller Assy is set exactly to the connection belt.**

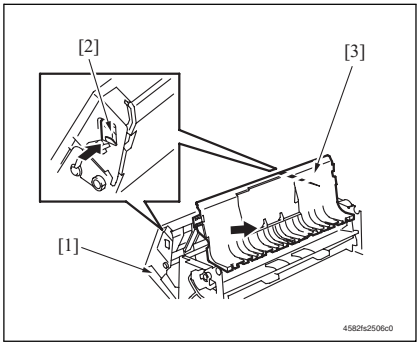


4. Remove two screws [5], and pull up the Roller Section [6].



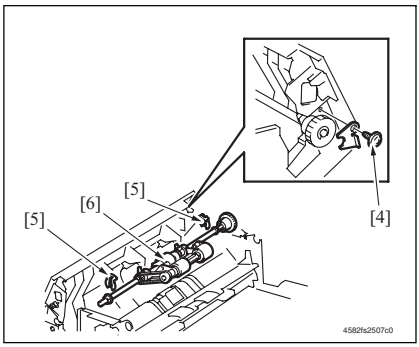
5. Remove the Transport Belt [7].

3.1.2 Pick-up Roller / Paper Take-up Roller

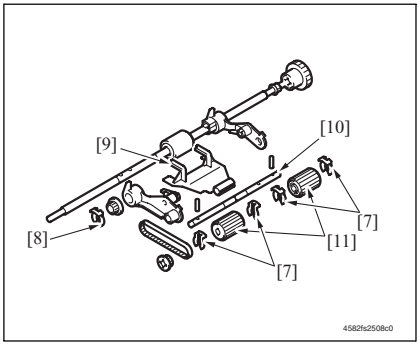


A. Replacing procedure

1. Open the Paper Take-up Section Cover [1], press inward and unlock the locking claws [2] at both ends of the Paper Take-up Section Guide (the Inner Cover), and remove the Paper Take-up Section Guide [3].

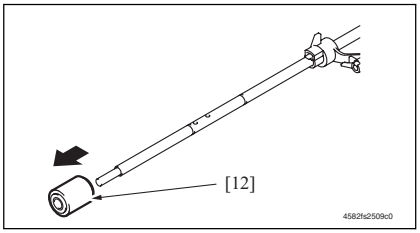


2. Remove the screw [4] (on the rear side) of the Pick-up/Paper Take-up Roller Assy shaft positioning plate and two C-clips [5] (at both ends) of the Pick-up/Paper Take-up Roller Assy shaft, and remove the Pick-up/ Paper Take-up Roller Assy [6].



3. Remove four C-clips [7] of the Pick-up Roller and the gear-fixing C-clip [8] (black) of the Pick-up/Paper Take-up Roller connected Timing Belt, and remove the Pick-up/Paper Take-up Roller connecting section [9] from the shaft [10].

4. Remove the Pick-up Roller [11].

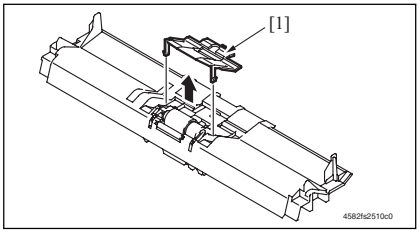


5. Remove C-clip (black) of the Paper Take-up Roller, and remove the Paper Take-up Roller [12].

NOTE

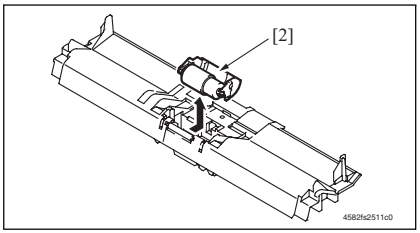
- **Be careful not to lose the Pick-Up/ Take-Up Roller fixing pin.**

3.1.3 Separation Roller



A. Replacing procedure

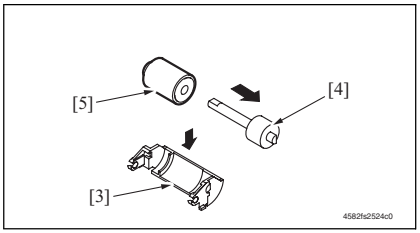
1. Unlock the Separation Roller Cover locking claws, and remove the Separation Roller Cover [1].



2. Remove the Separation Roller Assy [2].

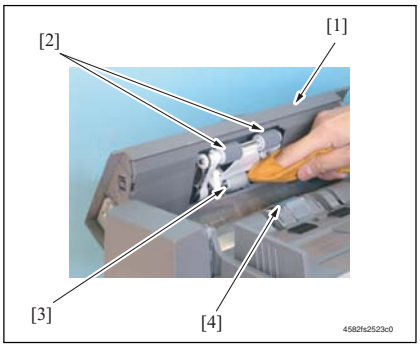
NOTE

- **The Separation Roller Assy is of a set-in type. Pinch the roller shaft at both ends and pull out the Separation Roller Assy upward.**



3. Remove the Holder [3] and the shaft [4], and remove the Separation Roller [5].

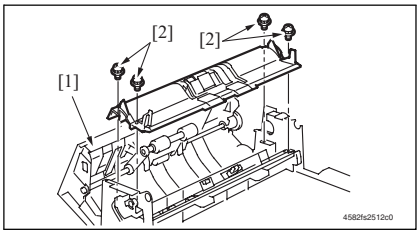
3.1.4 Pick-up Roller / Paper Take-up Roller / Separation Roller



A. Cleaning procedure

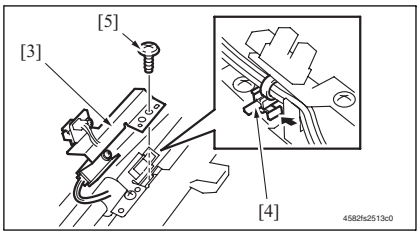
1. Open the Paper Take-up Section Cover [1].
2. Wet a cloth with alcohol, and use it to wipe up the Pick-up Roller [2], Paper Take-up Roller [3] and Separation Roller [4].

3.1.5 Registration Roller

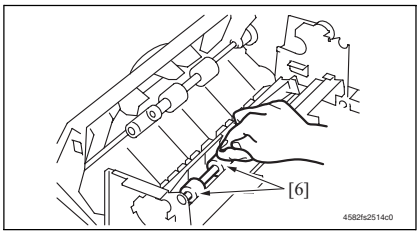


A. Cleaning procedure

1. Open the Paper Take-up Section Cover [1].
2. Remove four screws [2] from the Registration Roller Cover.

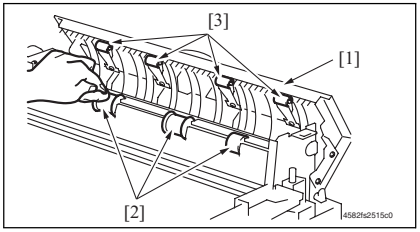


3. Remove the Wire Harness Saddle [4] and the screw [5] from the Registration/Timing Sensor mounting plate [3].



4. Wet a cloth with alcohol, and use it to wipe up the Registration Roller [6].

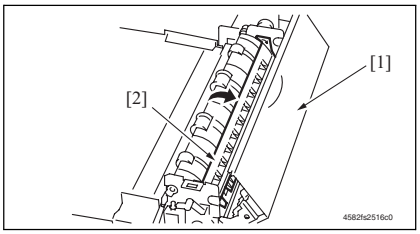
3.1.6 Exit Roller / Roll



A. Cleaning procedure

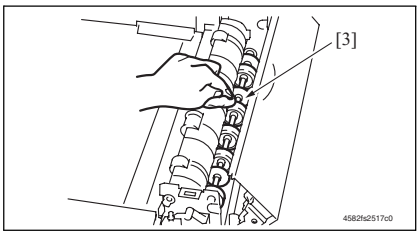
1. Open the Paper Exit Section Cover [1].
2. Wet a cloth with alcohol, and use it to wipe up the Exit Roller [2]/Roll [3].

3.1.7 Turnover Roller



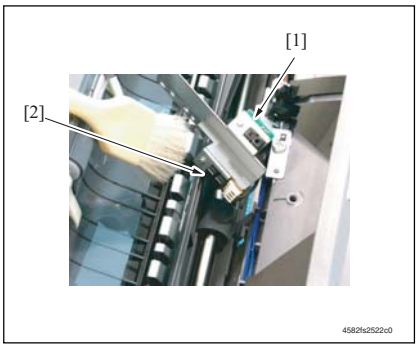
A. Cleaning procedure

1. Open the Paper Exit Section Cover [1], and open the Turnover Guide Plate [2].



2. Wet a cloth with alcohol, and use it to wipe up the Turnover Roller [3].

3.1.8 Sensor Section

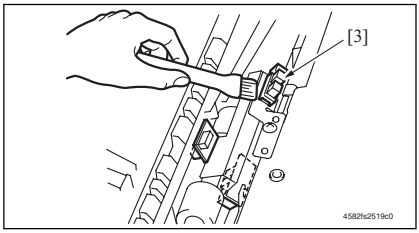


A. Cleaning procedure

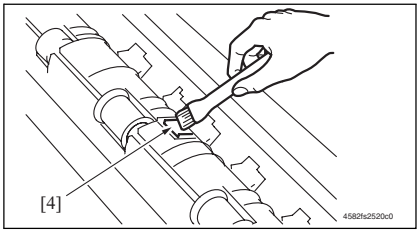
1. Remove the Registration/Timing Sensor mounting plate.

☞ 8

2. Clean the Registration [1]/Timing Sensor [2] with a blower brush or the like.



3. Remove the Registration Roller Cover.
☞ 8
4. Clean the Paper Empty Sensor [3] with a brush or the like.



5. Open the Paper Exit Section Cover.
6. Clean the Paper Exit Sensor [4] with a brush or the like.

4. Other

4.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in this manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ Caution

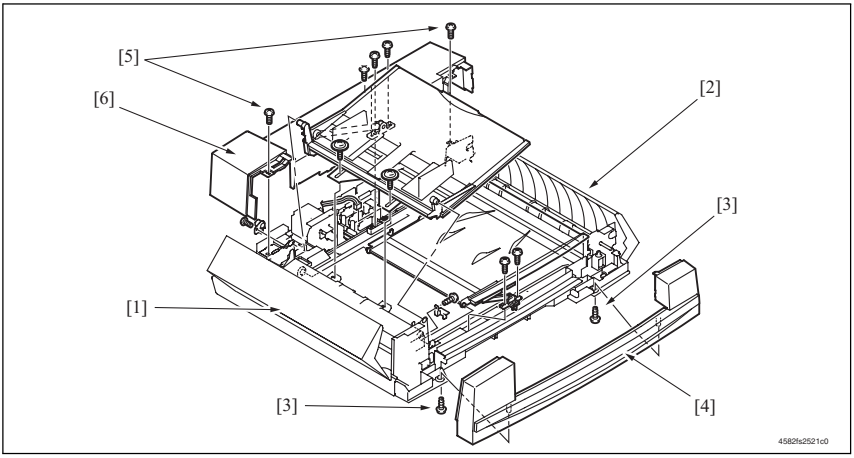
- **When removing a circuit board or other electrical component, refer to "SAFETY AND IMPORTANT WARNING ITEMS" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

4.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Front Cover	☞ 12
2		Rear Cover	☞ 12

4.3 Disassembly/Assembly procedure

4.3.1 Front Cover/Rear Cover



1. Open the Paper Take-up Section Cover [1] and the Paper Exit Section Cover [2].
2. Remove the Front Cover [4] by removing two screws [3].
3. Remove the Rear Cover [6] by removing two screws [5].

Adjustment/Setting

5. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance Checks

Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The Original Glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ Caution

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.**
- **Special care should be used when handling the Fusing Unit which can be extremely hot.**
- **The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC Drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

6. Service / Test Mode

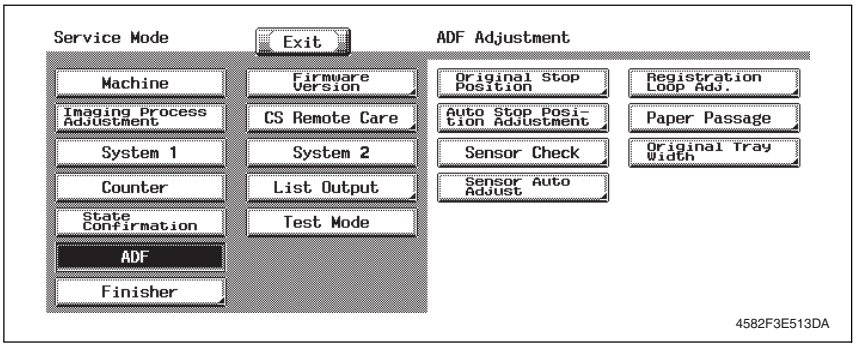
- The Service / Test Modes are set from the Service Mode screen of the main unit.

6.1 Service Mode setting procedure

1. Press the [Utility/Counter] key.
2. Touch the [Details] Check key.
3. Press the keys, [STOP] → [0] → [0] → [STOP] → [0] → [1], in this order.
4. Enter the service code (8 digits).
5. Select [ADF].

NOTE

- **Do not teach this procedure to others unless it is absolutely necessary.**



6.2 Type of the Service Mode

- The [ADF] in the Service Mode has 7 items as follows.

• Original Stop Position (Adjust)	• Registration Loop Adj. (Adjust)
• Auto Stop Position Adjustment (Adjust)	• Paper Passage (Test)
• Sensor Check (Test)	• Original Tray Width (Adjust)
• Sensor Auto Adjust (Adjust)	

6.3 ADF Paper Passage

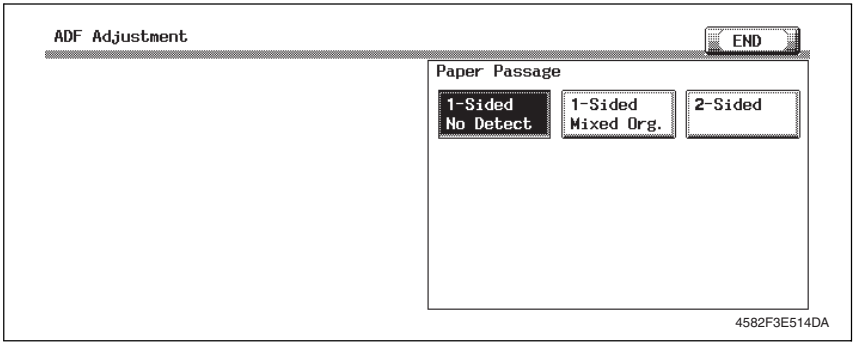
- The Paper Passage motion of the Automatic Document Feeder is checked.

<Procedure>

1. Set the mode to the Service Mode.
2. Touch the [ADF] key.
3. Touch the [Paper Passage] key.
4. Select the Paper Passage Mode to be tested from [1-Sided (No Detect)], [1-Sided (Mixed Org.)] and [2-Sided].
5. Set the Original in the Take-up Tray.
   The Start key color changes from orange to green.
6. Press the Start key. The operation starts.

NOTE

- **After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended. Then, if the Start key is pressed again during the suspension, the operation will be resumed.**
- **If the Stop key is pressed during the test operation, the test will be forced to end.**
- **If there is no Original set in the Take-up Tray, the Start key will not work.**
- **All Originals set in the Take-up Tray are passed through. Upon the completion of all Originals passed through, the Paper Through Test ends.**



7. Sensor Check

7.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

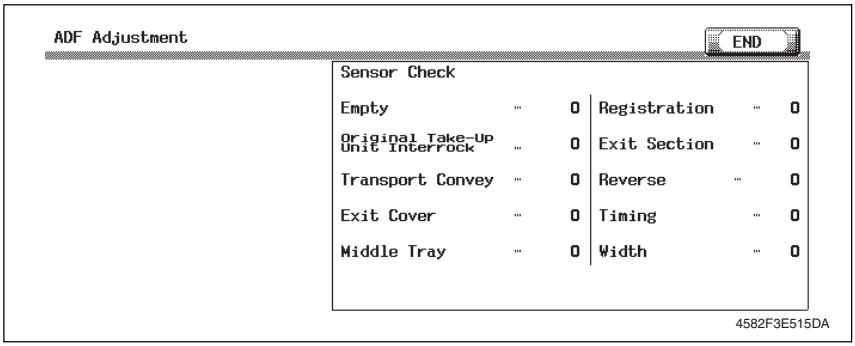
<Procedure>

1. Set the mode to the Service Mode.
2. Touch the [ADF] key.
3. Touch the [Sensor Check] key.
4. Operate the sensor to check by using paper or the like, and check the screen display. (Paper detected: 1, No paper detected: 0)

7.2 Sensor check list

7.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



- Note that each of the following sensors changes from 0 to 1 when the corresponding part is opened, which is regarded as a closure failure: Original Take-Up Unit Interlock, Transport Convey, Exit Cover, and Middle Tray. Of these sensors, Transport Convey changes from 0 to 1 when PC202 mounted on the IR of the main unit detects a predetermined condition (ADF is raised to an angle of 20° or more).

<Output display of Width>

- The operation of the sensor can be checked whether it is normal or faulty by changing the guide width of the Document Take-up Tray to change the output value.

A. Sensor monitor

Symbol	Panel display	Part/Signal name	Operation characteristics/ Panel display	
			1	0
PC4-DF	Empty	Empty Sensor	Paper not present	Paper present
PC3-DF	Original Take-Up Unit Interrock	Take-up Cover Sensor	OPEN	CLOSE
PC202	Transport Convey	Original Cover Angle Sensor	OPEN	CLOSE
PC7-DF	Exit Cover	Exit Cover Sensor	OPEN	CLOSE
PC8-DF	Middle Tray	Tray Open/Close Sensor	OPEN	CLOSE
PC1-DF	Registration	Registration Sensor	Paper present	Paper not present
PC6-DF	Exit Section	Exit Sensor	Paper present	Paper not present
PC5-DF	Reverse	Turnover Sensor	Paper present	Paper not present
PC2-DF	Timing	Pick-up Sensor	Paper present	Paper not present
R1-DF	Width	Document Size Volume		

8. Mechanical adjustment

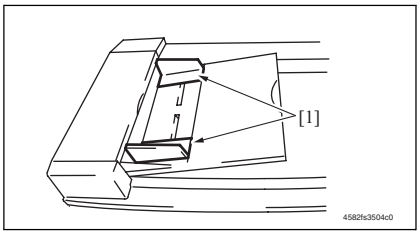
8.1 Adjustment of the tray volume

- Read out the value of maximum width and minimum width of the document width detection volume interlocked with the Document Take-up Tray Edge Guide.

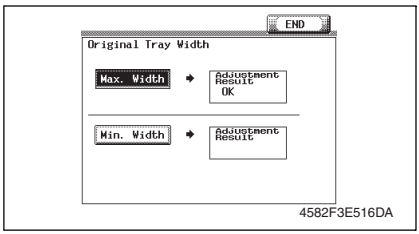
<Procedure>

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Original Tray Width].

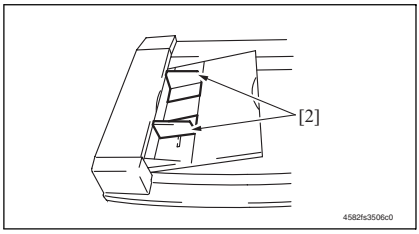
A. Adjustment procedure



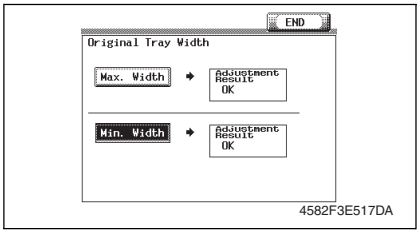
1. Widen the width across the edge guides [1] by sliding them to their maximum width.
2. Touch [Max. Width].



3. Press the Start key. Confirm that the Result is OK.



4. Narrow the width across the edge guides [2] by sliding them to their minimum width.



5. Touch [Min. Width].
6. Press the Start key. Confirm that the Result is OK.
7. Touch [END].
8. Touch [Exit] on the Service Mode screen.

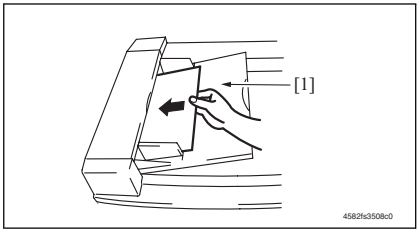
✻ If the Result is NG:

- Possible causes includes failure of the document width detection volume, wrong wiring to the volume and failure of the PWB-CONT.

8.2 Adjustment of the document edge guide reference position

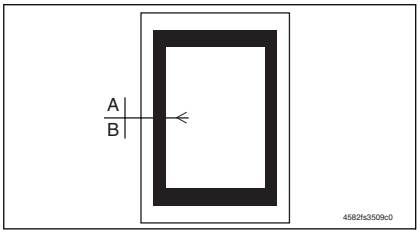
Adjustment standard: Displacement of the document edge should be within 4 ± 1 mm to the FD scale.

A. Adjustment procedure



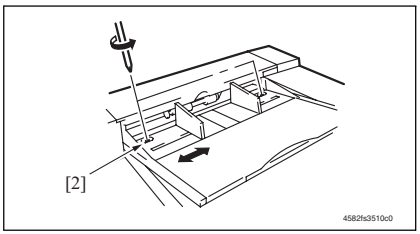
1. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
2. Set up the following functions:

- Auto Paper
- 1-sided original / 1-side copy



3. Press the Start key.
4. Fold the copy in half.
5. With reference to the crease, check to see if the arrow is on the side of A or B.
   Specifications: ± 2 mm from the center

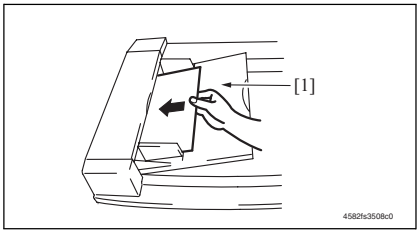
- If the deviation falls outside the specified range, use the following procedure to make an adjustment.



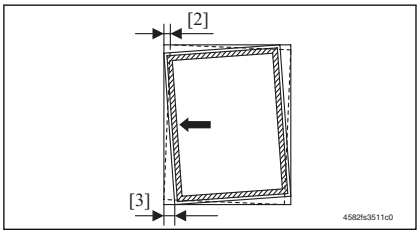
6. Loosen screw [2] (two on the front side and three on the backside) on the document feeding tray.
   If the crease deviates on the side of A, move the tray to the front.
   If the crease deviates on the side of B, move the tray to the rear.
7. Make recheck.

8.3 Adjustment of the document skew

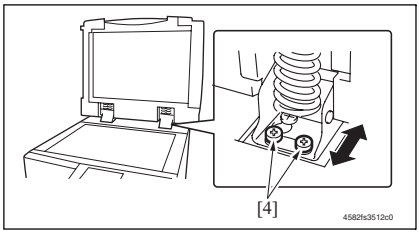
Adjustment standard: Skew should be ± 1.0 % or less with respect to the document length; within 3.0 mm for document of A4 size.



1. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
2. Set up the following functions:
- Auto Paper
- 1-sided original / 1-side copy



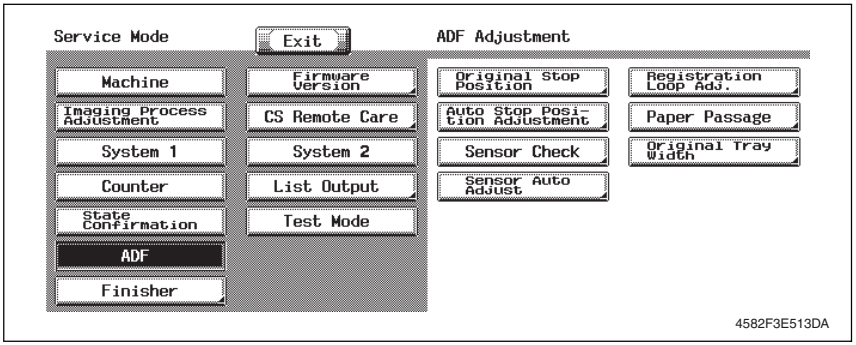
3. Press the Start key.
4. Check in which direction, [2] or [3], the image tilts on the copy fed out of the machine.
Specifications: Tilt 3.0 mm max.
- If the image tilts more than the specifications, perform the following steps to make the adjustment.



5. Loosen two front screws [4] on the right hinge.
6. If the image tilts in direction of [2], move the Document Feeder toward the front.
If the image tilts in direction of [3], move the Document Feeder toward the rear.
7. Tighten two screws [4].
8. Make recheck.

8.4 Adjustment of the document stop position

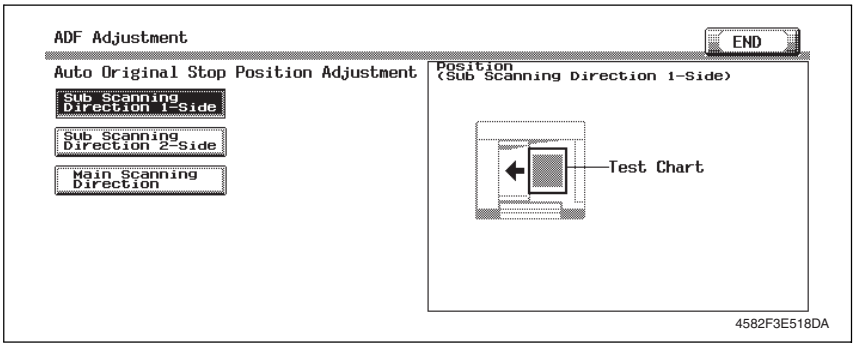
- Adjustment of the document stop position is made automatically and manually (by entering numbers).
  The following adjustment is made in the Service Mode.

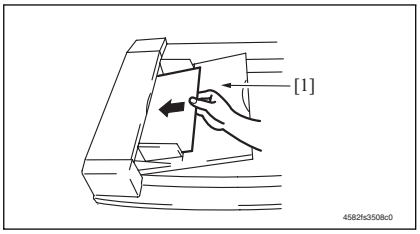


8.4.1 Auto adjust: Sub Scanning Direction 1-Sided Stop Position

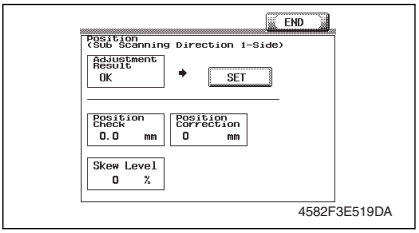
A. Adjustment procedure

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].
4. Touch [Sub Scanning Direction 1-Side].





5. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
6. Press the Start key.



4582F3E519DA

7. Make sure that Result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.

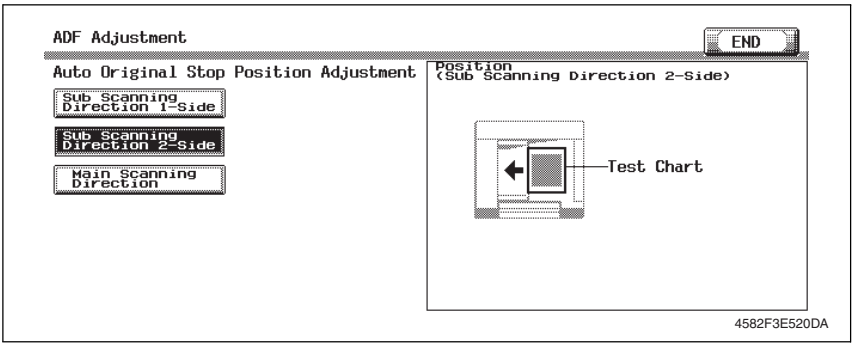
If the Result is Unable:

- Check and correct the skew of the document.
- Manually correct the value of [Position Correction].

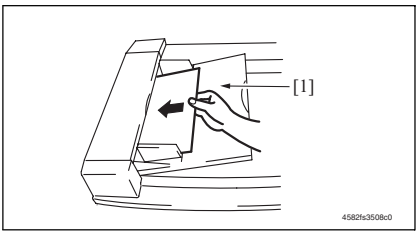
8.4.2 Auto adjust: Sub Scanning Direction 2-Sided stop position

A. Adjustment procedure

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].
4. Touch [Sub Scanning Direction 2-Side].



4582F3E520DA



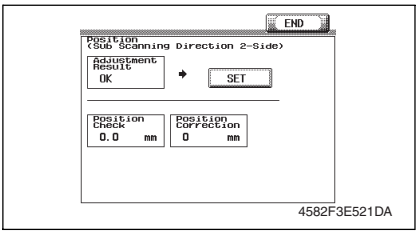
4582fs3508c0

5. Place the chart furnished with the Document Feeder [1] in the document feeding tray.

NOTE

- **Make sure that the blank surface of the chart faces up.**

6. Press the Start key.



4582F3E521DA

7. Check that Result is OK and then touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.

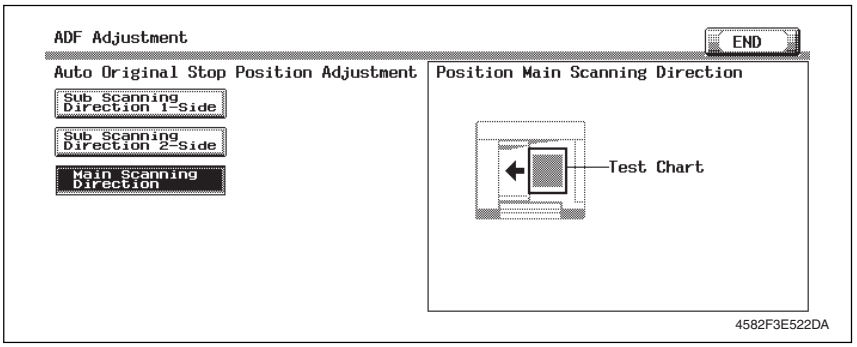
If the Result is Unable:

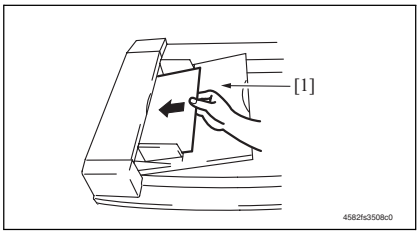
- Check and correct the skew of the document.
- Manually correct the value of [Position Correction].

8.4.3 Auto adjust: Main Scanning Direction Image scan start position

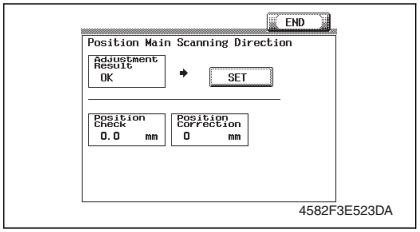
A. Adjustment procedure

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].
4. Touch [Main Scanning Direction].





5. Place the chart furnished with the Document Feeder in the document feeding tray (with the side having an arrow facing up).
6. Press the Start key.



7. Check that Result is OK and then touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.

If the Result is Unable:

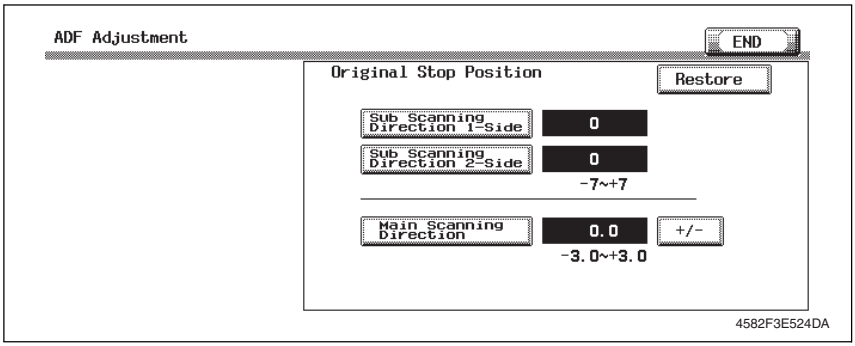
- Check and correct the skew of the document.
- Manually correct the value of [Position Correction].

8.4.4 Manual adjust: Sub Scanning Direction 1-Sided / 2-Sided document stop position adjustment

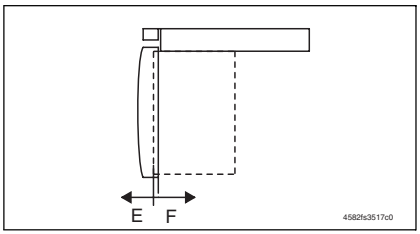
Adjusted range: -7 mm to + 7 mm

A. Adjustment procedure

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Original Stop Position].



4. Select [Sub Scanning Direction 1-Side] or [Sub Scanning Direction 2-Side].
5. Enter the value from the ten-key pad. (Press the ID key to change the +/- code.)



- To shift the position in the direction of F, set the code to +.
- To shift the position in the direction of E, set the code to -.

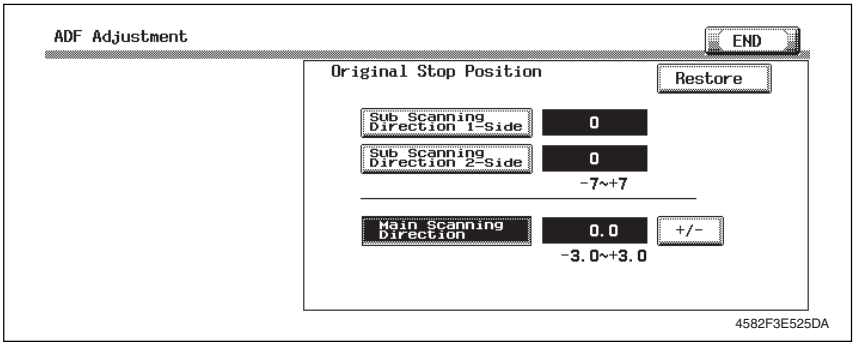
6. Touch [END].

8.4.5 Manual adjust: Main Scanning Direction Image scan position adjustment

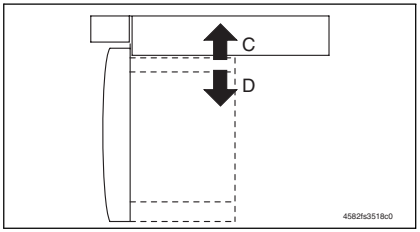
Adjusted range: -3 mm to + 3 mm

A. Adjustment procedure

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Original Stop Position].



4. Select [Main Scanning Direction].
5. Enter the value from the ten-key pad. (Press the ID key to change the code.)



- To scan the image in the direction of C, set the code to -.
- To shift the image in the direction of D, set the code to +.

6. Touch [END].

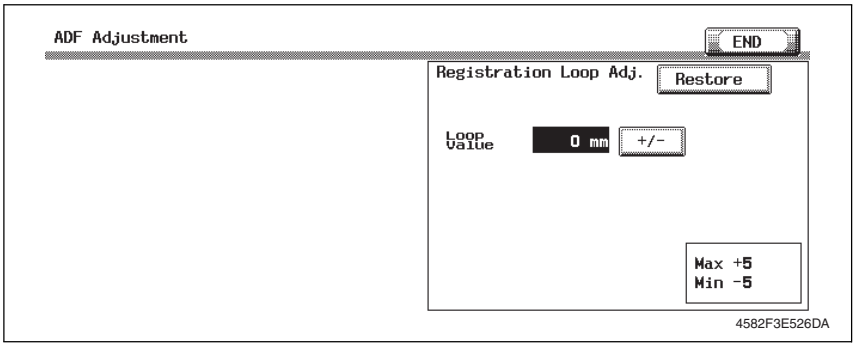
8.5 Adjustment of the loop value

Adjusted range: -5 mm to + 5 mm
Default value: 0 (Loop value: 5 mm)

- The loop value is increased by the entered + value and decreased by the entered - value.
- Too much loop value may result in dog-eared document, and too little loop value may result in askew document.

A. Adjustment Procedure

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Registration Loop Adj.].
4. Touch [Loop Value].



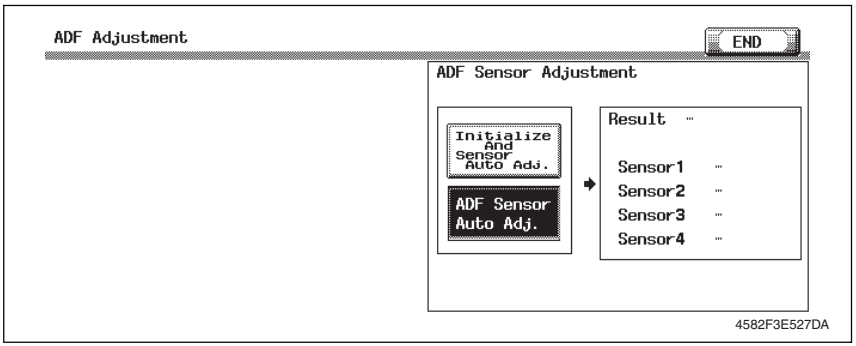
5. Enter the value from the ten-key pad. (Press the ID key to change the +/- code.)
6. Touch [END].

8.6 Automatic adjustment of the sensor

- The detection level of the document through path sensor is automatically adjusted.
- The adjustment has two modes: [Initialize And Sensor Auto Adj.] and [ADF Sensor Auto Adj.].
- Make this adjustment as appropriate after the replacement of the ADF board or in case of the document detection error.

A. Adjustment procedure

1. Set the mode to the Service Mode.
2. Touch [ADF].
3. Touch [Sensor Auto Adjust].



4. Select [Initialize And Sensor Auto Adj.] or [ADF Sensor Auto Adj.].
5. Press the Start key.
6. If the result is OK touch the [END] key on the panel.
7. If the result is NG check the influencing sensor, replace it if necessary, and then make readjustment.

Blank Page

Troubleshooting

9. Jam Display

9.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

9.2 Misfeed display

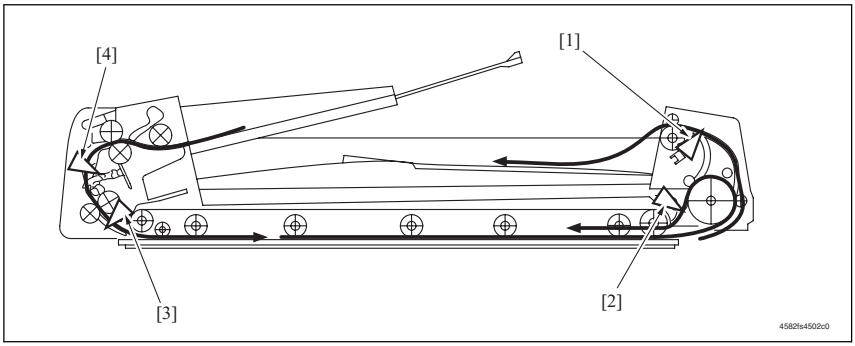
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Code	Misfeed location	Misfeed access location	Action
6401	Paper Exit / Turnover section	Paper Exit section Cover	☞ 30
6402	Paper Take-Up section	Paper Take-Up section Cover	☞ 31
6403	Transport section	Paper Take-Up section Cover	☞ 32
6404	Transport Tray section	Paper Exit section Cover	☞ 33

9.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

9.3 Sensor layout



[1]	Exit Sensor	PC6-DF	[3]	Pick-up Sensor	PC2-DF
[2]	Turnover Sensor	PC5-DF	[4]	Registration Sensor	PC1-DF

9.4 Solution

9.4.1 Paper Exit / Turnover section misfeed

A. Detection timing

Type	Description
Misfeed due to paper remaining at the Turnover Sensor	Misfeed is detected if the Turnover Sensor (PC5-DF) is not turned OFF within a preset time after the Turnover Sensor (PC5-DF) was tuned ON.
Misfeed due to paper not reached the Exit Sensor (in the 2-Sided Mode)	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned ON within a preset time after the Turnover Sensor (PC5-DF) was turned ON in the 2-Sided mode.
Misfeed due to paper remaining at the Exit Sensor	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned OFF within a preset time after the Exit Sensor (PC6-DF) was tuned ON.

B. Action

Relevant electrical parts	
Turnover Sensor (PC5-DF) Exit Sensor (PC6-DF) Exit Motor (M3-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC5-DF I/O, sensor check	PWB-A DF CN9A-3 (ON)	DF-601 C-4
3	PC6-DF I/O, sensor check	PWB-A DF CN9A-6 (ON)	DF-601 C-4
4	M3-DF operation check	PWB-A DF CN3A-1 to 4	DF-601 C-7
5	PWB-A DF replacement	—	—

9.4.2 Paper Take-Up section misfeed

A. Detection timing

Type	Description
Misfeed due to paper not reached the Registration Sensor	Misfeed is detected if the Registration Sensor (PC1-DF) is not turned ON within a preset time after the Take-up Motor (M1-DF) started normal rotation.
Misfeed due to paper not reached the Pick-Up Sensor	Misfeed is detected if the Pick-up Sensor (PC2-DF) is not turned ON within a preset time after the Take-up Motor (M1-DF) started reverse rotation.

B. Action

Relevant electrical parts	
Registration Sensor (PC1-DF) Pick-up Sensor (PC2-DF) Take-up Motor (M1-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1-DF I/O, sensor check	PWB-A DF CN7A-9 (ON)	DF-601 G to H-5
3	PC2-DF I/O, sensor check	PWB-A DF CN7A-12 (ON)	DF-601 G to H-5
4	M1-DF operation check	PWB-A DF CN5A-1, 3, 4, 6	DF-601 C-6
5	PWB-A DF replacement	—	—

9.4.3 Transport section misfeed

A. Detection timing

Type	Description
Misfeed due to paper remaining at the Pick-Up Sensor	Misfeed is detected if the Pick-up Sensor (PC2-DF) is not turned OFF within a preset time after the Take-up Motor (M1-DF) started reverse rotation.
Misfeed due to paper not reached the Turnover Sensor	Misfeed is detected if the Turnover Sensor (PC5-DF) is not turned ON within a preset time after the Transport Motor (M2-DF) started.

B. Action

Relevant electrical parts	
Pick-up Sensor (PC2-DF) Turnover Sensor (PC5-DF) Take-up Motor (M1-DF) Transport Motor (M2-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC2-DF I/O, sensor check	PWB-A DF CN7A-12 (ON)	DF-601 G to H-5
3	PC5-DF I/O, sensor check	PWB-A DF CN9A-3 (ON)	DF-601 C-4
4	M1-DF operation check	PWB-A DF CN5A-1, 3, 4, 6	DF-601 C-6
5	M2-DF operation check	PWB-A DF CN4A-4 to 7	DF-601 C-6
6	PWB-A DF replacement	—	—

9.4.4 Transport Tray section misfeed

A. Detection timing

Type	Description
Misfeed due to paper not reached the Exit Sensor (in the 1-Sided Mode)	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned ON within a preset time after exit operation started in the 1-Sided Mode.
Misfeed at the Transport Tray	Misfeed is detected if the difference between the paper feeding size measured at the Turnover Sensor (PC5-DF) and that measured at the Exit Sensor (PC6-DF) is 20 mm or more.

B. Action

Relevant electrical parts	
Turnover Sensor (PC5-DF) Exit Sensor (PC6-DF)	Control Board (PWB-A DF)

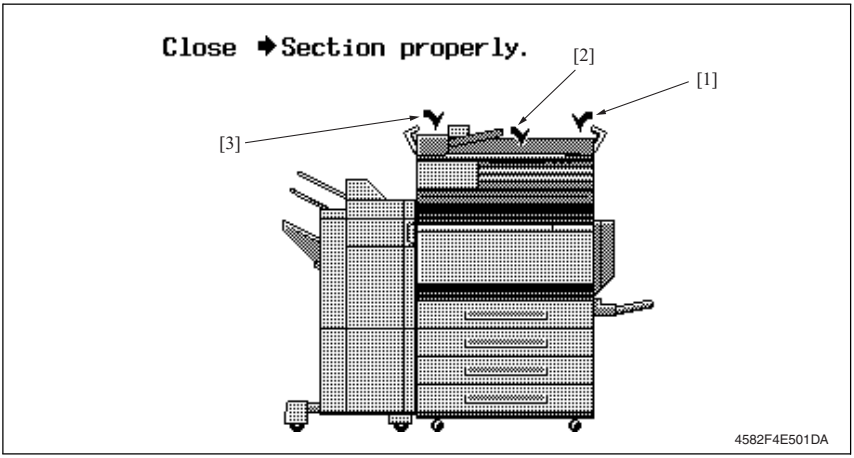
Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC5-DF I/O, sensor check	PWB-A DF CN9A-3 (ON)	DF-601 C-4
3	PC6-DF I/O, sensor check	PWB-A DF CN9A-6 (ON)	DF-601 C-4
4	PWB-A DF replacement	—	—

NOTE

- **Each sensor is automatically adjusted when the Power Switch is turned ON as special means for detecting a paper misfeed. If a sensor adjustment error occurs through this procedure, a misfeed is detected as paper remaining misfeed at the corresponding sensor.**

10. Set error detection

- When the ADF or cover set error for some reason is detected, the Panel of the main unit will have the following display.



<Panel display and detection timing for each>

Panel display	Description of error	Detection start	Detection timing
[1]	Paper Exit section Cover set error	When the Main Power Switch turn ON.	Paper Exit section Open/Close Sensor (when light-blocked)
[2]	Transport Tray section Cover set error	When the Main Power Switch turn ON.	Transport Tray Open/Close Sensor (when light- blocked)
[3]	Paper Take-Up section Cover set error	When the Main Power Switch turn ON.	Paper Take-Up Section Open/ Close Sensor (when light-blocked)
—	ADF set error	When the document is set in the ADF	Size Reset Switch on the main unit (when turned ON)

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-103/PC-203

2005.07
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

PC-103/PC-203

General

1. Product specifications 1

Maintenance

2. Periodical check 3
2.1 Maintenance procedure (Periodical check parts) 3
2.1.1 Replacing the Separation Roller Assy 3
2.1.2 Replacing the Paper Take-up Roller 4
2.1.3 Replacing the Pick-up Roller 6
3. Other 8
3.1 Disassembly/Adjustment prohibited items 8
3.2 Disassembly/Assembly/Cleaning list (Other parts) 9
3.2.1 Disassembly/Assembly parts list 9
3.2.2 Cleaning parts list 9
3.3 Disassembly/Assembly procedure 10
3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover 10
3.3.2 Rear Cover 10
3.4 Cleaning procedure 11
3.4.1 Separation Roller 11
3.4.2 Paper Take-up Roller 11
3.4.3 Pick-up Roller 12
3.4.4 Vertical Transport Roller 12

Adjustment/Setting

4. How to use the adjustment section 13
5. Sensor check 14
5.1 Check procedure 14
5.2 Sensor check list 14
5.2.1 Sensor check screen 14
5.2.2 Sensor check list 15
6. Mechanical adjustment 16
6.1 Adjusting the paper reference position 16
6.1.1 Print Positioning: Side Edge 16
6.1.2 Dup Print Positioning: Side Edge 18

Troubleshooting

7. Jam Display 19
7.1 Misfeed display 19
7.1.1 Misfeed display resetting procedure 19
7.2 Sensor layout 20
7.3 Solution 21
7.3.1 Initial check items 21
7.3.2 Tray3 Paper Take-Up section/Vertical Transport section misfeed (PC-103/PC-203) 22
7.3.3 Tray4 Paper Take-Up section/Vertical Transport section misfeed (PC-203) 23
8. Trouble code 24
8.1 Trouble code display 24
8.2 Trouble code list 24
8.3 Solution 25
8.3.1 C0206: Tray3 Lift-Up Failure
C0208: Tray4 Lift-Up Failure 25

General

1. Product specifications

A. Type

Name	2 way Paper Take-Up Cabinet
Type	Front loading type 2 way paper take-up device
Installation	Desk type
Document Alignment	Center

B. Paper type

Type	Plain paper	60 to 90 g/m^2 (16 to 24 lb)
	Recycled paper	60 to 90 g/m^2 (16 to 24 lb)
Size	A5R to A3, 5.5 × 8.5R to 11 × 17	
Capacity	3rd Drawer	500 sheets (80 g/m^2, 21.25 lb)
	4th Drawer	500 sheets (80 g/m^2, 21.25 lb)

C. Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 %
Max. Power Consumption	75 W or less
Dimensions	570 mm (W) × 548 mm (D) × 263 mm (H) 22.5 inch (W) × 21.5 inch (D) × 10.25 inch (H)
Weight	PC-103: 22.0 kg (48.5 lb) PC-203: 26.0 kg (57.25 lb)

D. Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

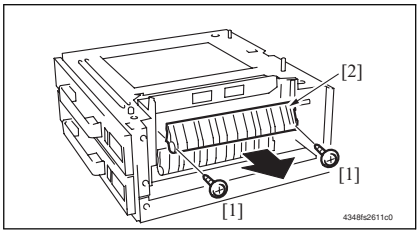
Blank Page

Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

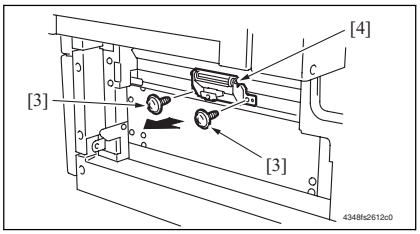
2.1.1 Replacing the Separation Roller Assy



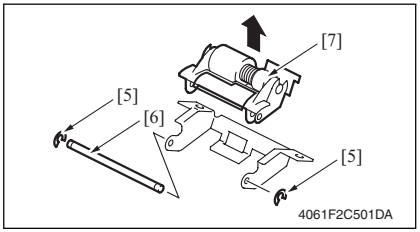
1. Remove the Right Door.

☞ 10

2. Remove two screws [1] and remove the Jam Access Cover [2].



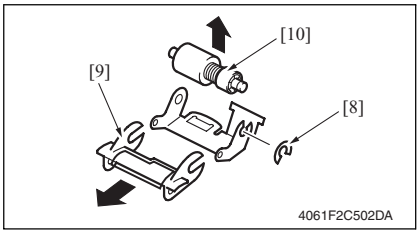
3. Remove two screws [3] and remove the Paper Separation Roller Mounting Bracket Assy [4].



4. Remove two C-rings [5] and the shaft [6], and remove the Paper Separation Roller Fixing Bracket Assy [7].

NOTE

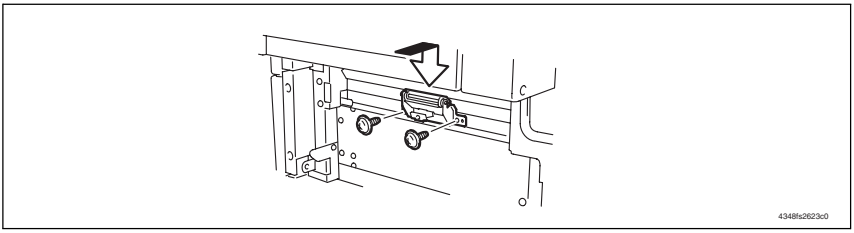
- **Be careful not to lose spring at this time.**



5. Remove the C-ring [8], the Guide [9], and remove the Separation Roller Assy [10].
6. Repeat steps 1 to 3 similarly for the 4th Drawer.

NOTES

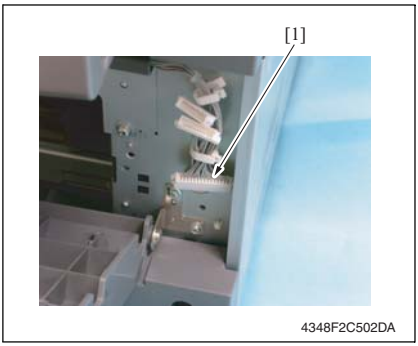
- **Install the Separation Roller Assy while pressing the holder down so that it aligns to the metal bracket of the machine.**
- **Make sure that the Separation Roller Assy is not tilted to the right or left when installed.**



NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

2.1.2 Replacing the Paper Take-up Roller



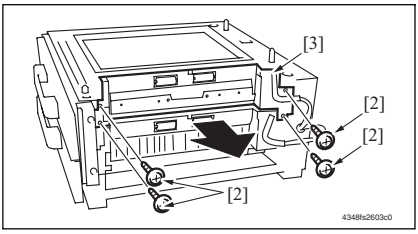
1. Remove the Rear Right Cover. (Remove the Right Lower Cover for 4th row.)

☞ 10

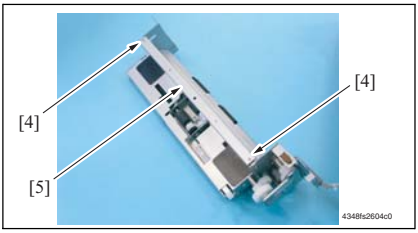
2. Remove the Tray3.(Remove the Tray4 from 4th row.)
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 3 in page 3 “Replacing the Separation Roller Assy.”

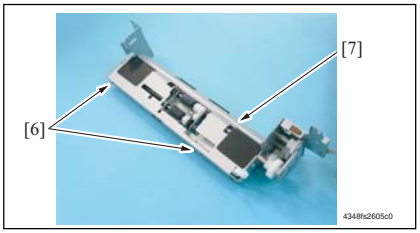
4. Disconnect the connector [1] and remove the harness from two wire saddles.



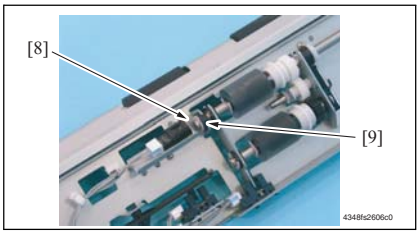
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



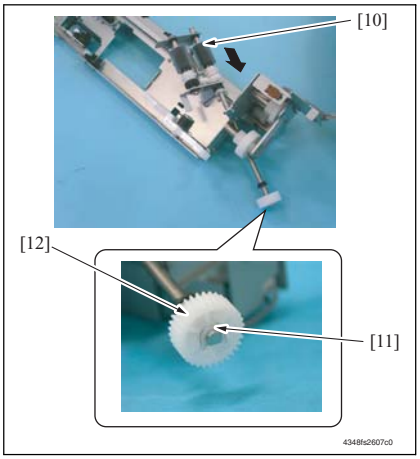
6. Remove two screws [4] and remove the Mounting Frame [5] for the Paper Separation Roller Mounting Bracket Assy.



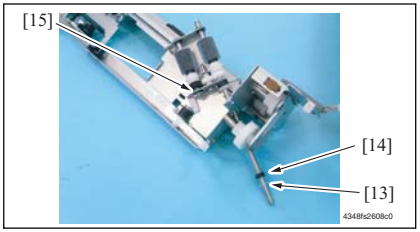
7. Remove two screws [6] and remove the Paper Take-up Cover [7].



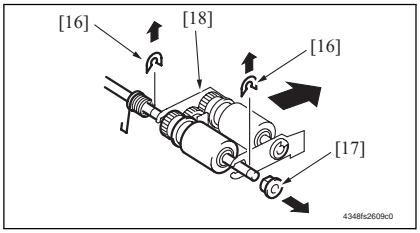
8. Remove the C-ring [8] and remove the bushing [9].



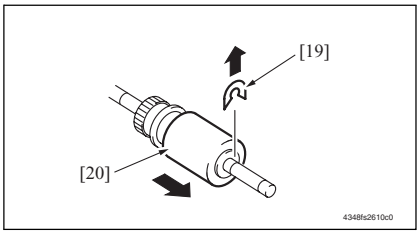
9. Shift the Shaft Assy [10] in the orientation as shown on the left, and remove the C-ring [11] and the gear [12].



10. Remove the C-ring [13], the bushing [14], and remove the shaft Assy [15].



11. Remove two E-rings [16] and the bushing [17], and remove the Pick-up Roller Fixing Bracket Assy [18].



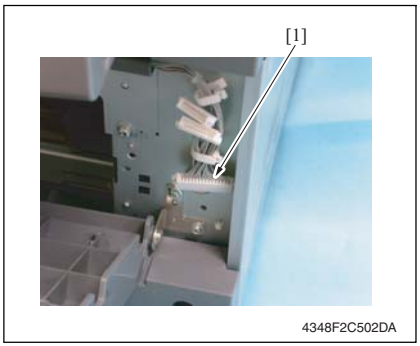
12. Remove the C-ring [19] and remove the Paper Take-up Roller [20].

13. Repeat steps 1 to 11 similarly for the 4th Drawer.

NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

2.1.3 Replacing the Pick-up Roller



1. Remove the Rear Right Cover. (Remove the Right Lower Cover for 4th row.)

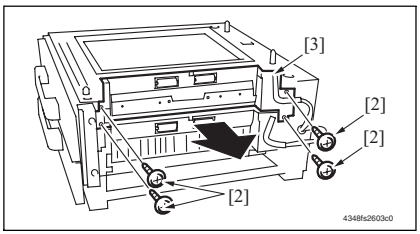
☞ 10

2. Remove the Tray3.(Remove the Tray4 from 4th row.)

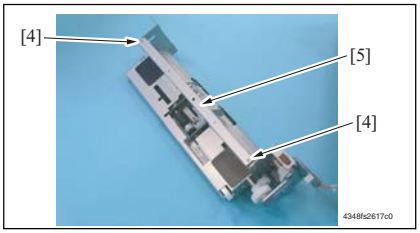
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 3 in page 3 “Replacing the Separation Roller Assy.”

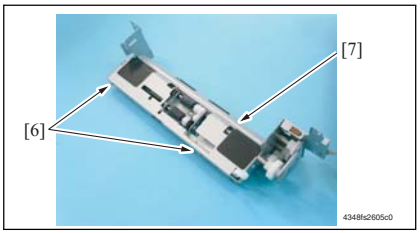
4. Disconnect the connector [1] and remove the harness from two wire saddles.



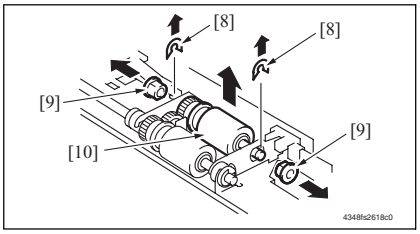
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



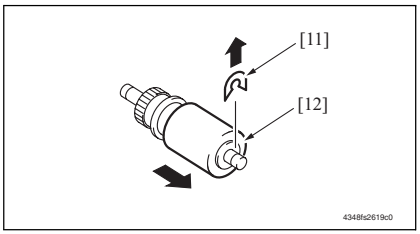
6. Remove two screws [4] and remove the Paper Separation Roller Mounting Bracket Assy [5] together with frame.



7. Remove two screws [6] and remove the Paper Take-up Cover [7].



8. Remove two C-rings[8], two bushings [9], and remove the Pick-up Roller Assy [10].



9. Remove the C-ring [11] and remove the Pick-up Roller [12].
10. Repeat steps 1 to 8 similarly for the 4th Drawer.

NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in this manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ Caution

- **When removing a circuit board or other electrical component, refer to "SAFETY AND IMPORTANT WARNING ITEMS" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly/Cleaning list (Other parts)

3.2.1 Disassembly/Assembly parts list

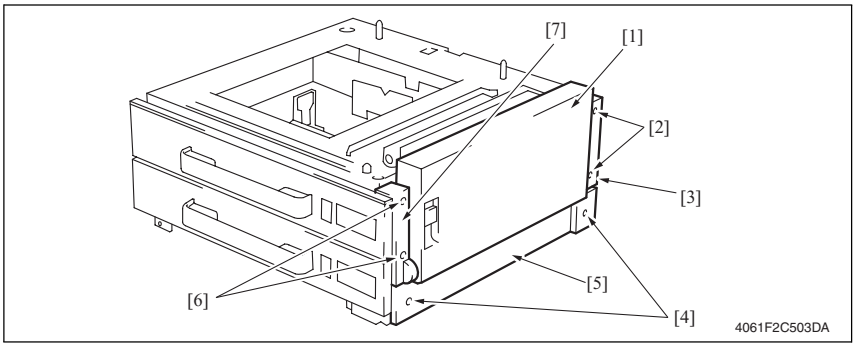
No	Section	Part name	Ref. page
1	Exterior parts	Right Door	☞ 10
2		Rear Right Cover	☞ 10
3		Lower Right Cover	☞ 10
4		Front Right Cover	☞ 10
5		Rear Cover	☞ 10

3.2.2 Cleaning parts list

No	Section	Part name	Ref. page
1	Paper feed section	Separation Roller	☞ 11
2		Paper Take-up Roller	☞ 11
3		Pick-up Roller	☞ 12
4	Transport section	Vertical Transport Roller	☞ 12

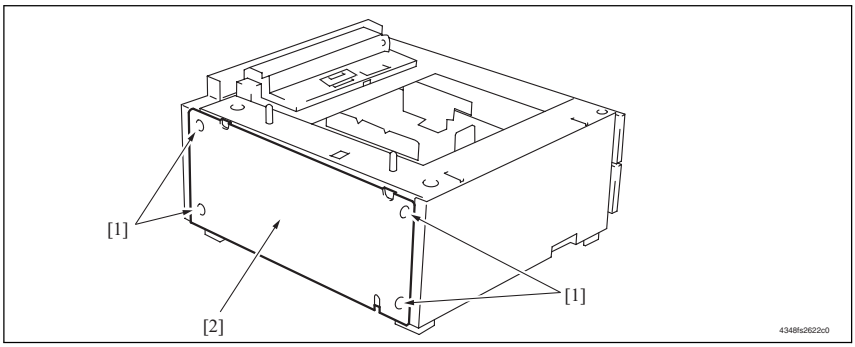
3.3 Disassembly/Assembly procedure

3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover



1. Open the Right Door [1].
2. Remove the Right Door [1].
3. Remove two screws [2] and remove the Rear Right Cover [3].
4. Remove two screws [4] and remove the Lower Right Cover [5].
5. Remove two screws [6] and remove the Front Right Cover [7].

3.3.2 Rear Cover



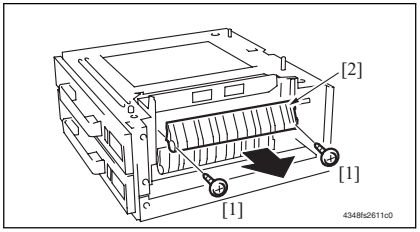
1. Remove four screws [1] and remove the Rear Cover [2].

3.4 Cleaning procedure

NOTE

- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

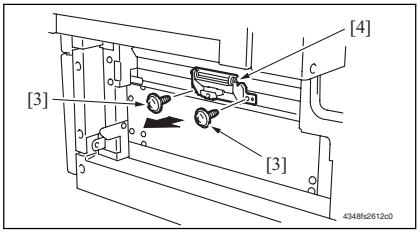
3.4.1 Separation Roller



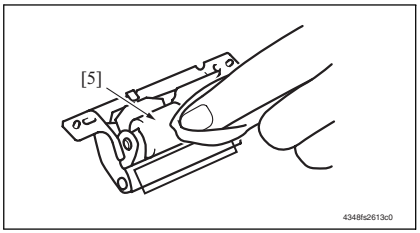
1. Remove the Right Door.

☞ 10

2. Remove two screws [1] and remove the Jam Access Cover [2].

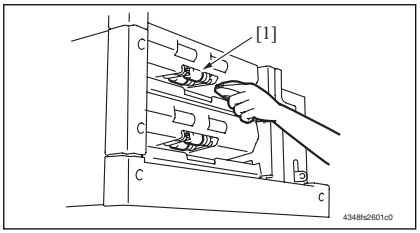


3. Remove two screws [3] and remove the Paper Separation Roller Mounting Bracket Assy [4].



4. Using a soft cloth dampened with alcohol, wipe the Separation Roller [5] clean of dirt.
5. Repeat steps 1 to 4 similarly for the 4th Drawer.

3.4.2 Paper Take-up Roller

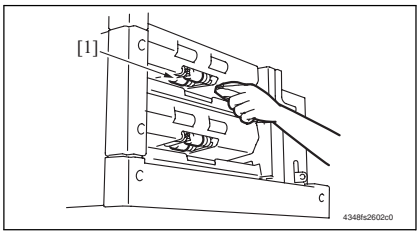


1. Remove the Tray3.(Remove the Tray4 from 4th row.)
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 3 in page 11 “Cleaning of the Separation Roller.”

3. Using a soft cloth dampened with alcohol, wipe the Paper Take-up Roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th Drawer.

3.4.3 Pick-up Roller

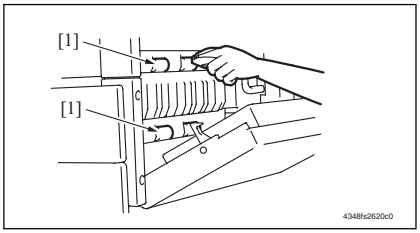


1. Remove the Tray3.(Remove the Tray4 from 4th row.)
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 3 in page 11 “Cleaning of the Separation Roller.”

3. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th Drawer.

3.4.4 Vertical Transport Roller



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Vertical Transport Roller [1] clean of dirt.

Adjustment/Setting

4. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by " ".

Advance Checks

Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The Original Glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ Caution

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.**
- **Special care should be used when handling the Fusing Unit which can be extremely hot.**
- **The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC Drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Call the Service Mode to the screen.

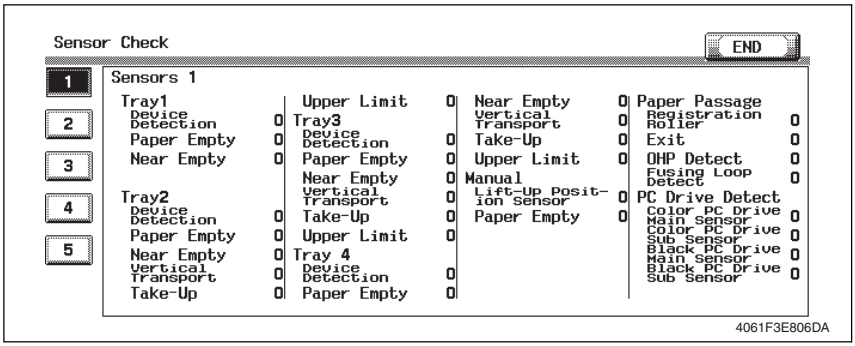
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the Main Unit Service Manual.

2. Touch the [State Confirmation] key.
3. Touch the [Sensor Check] key.

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



4061F3E806DA

5.2.2 Sensor check list

A. Sensor monitor 1 (PC-103/PC-203)

Symbol	Panel display		Part/Signal name	Operation characteristics/Panel display	
				1	0
PC112-PC	Tray3	Device Detection	Tray3 Device Detection Sensor	Set	Out of position
PC115-PC		Paper Empty	Tray3 Empty Sensor	Paper not present	Paper present
PC113-PC		Near Empty	Tray3 Near Empty Sensor	Blocked	Unblocked
PC117-PC		Vertical Transport	Tray3 Vertical Transport Sensor	Paper present	Paper not present
PC116-PC		Take-Up	Tray3 Take-up Sensor	Paper present	Paper not present
PC114-PC		Upper Limit	Tray3 Lift-up Upper Sensor	Raised Position	Not raised
PC121-PC	Tray4	Device Detection	Tray4 Device Detection Sensor	Set	Out of position
PC124-PC		Paper Empty	Tray4 Empty Sensor	Paper not present	Paper present
PC122-PC		Near Empty	Tray4 Near Empty Sensor	Blocked	Unblocked
PC126-PC		Vertical Transport	Tray4 Vertical Transport Sensor	Paper present	Paper not present
PC125-PC		Take-Up	Tray4 Take-up Sensor	Paper present	Paper not present
PC123-PC		Upper Limit	Tray4 Lift-up Upper Sensor	Raised Position	Not raised

6. Mechanical adjustment

6.1 Adjusting the paper reference position

NOTE

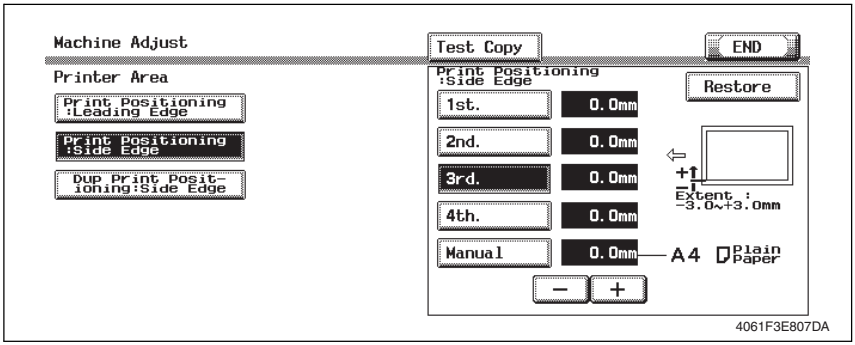
- **Make this adjustment after any of the following procedures has been performed.**
  When the PH Unit has been replaced.
  When the image on the print is offset in the sub scan direction.
  When a faint image occurs on the leading edge of the image.

6.1.1 Print Positioning: Side Edge

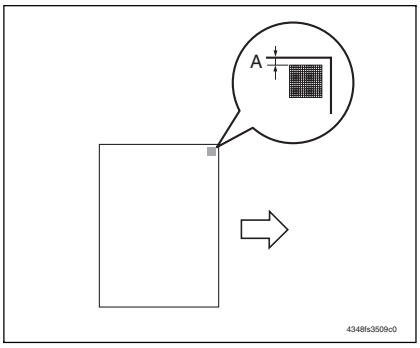
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the Main Unit Service Manual.

2. Touch [Machine] → [Printer Area].
3. Touch [Print Positioning: Side Edge] → [3rd.].

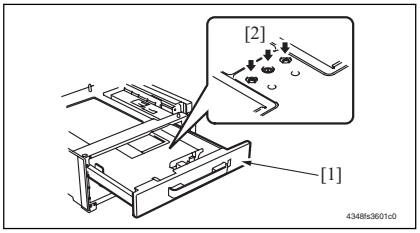


4. Press the Start key to let the machine produce a test pattern.

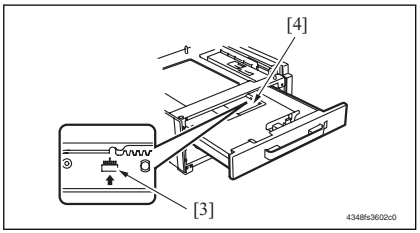


5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.

- **If adjustment cannot be completed only by inputting numeric value, perform adjustment according to the following procedure.**



8. Slide out the drawer [1] and unload paper from it.
9. Loosen three screws [2] at the center of the Paper Lifting Plate.



10. Watching the graduations [3] provided in the drawer, move the Edge Guide [4] in the rear.
- If width A is greater than the specified value, move the Edge Guide toward the front.
- If width A is smaller than the specified value, move the Edge Guide toward the rear.

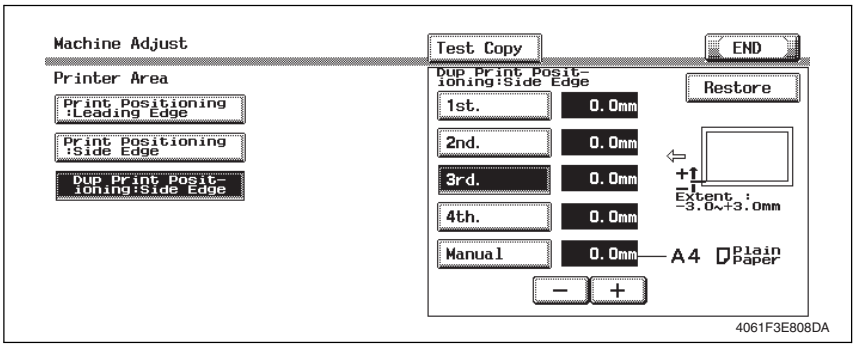
11. Perform another test print and check the reference deviation.
12. Repeat the adjustment until the reference line falls within the specified range.
13. Tighten the adjustment screw.
14. Repeat steps 1 to 13 similarly for the Tray 4.

6.1.2 Dup Print Positioning: Side Edge

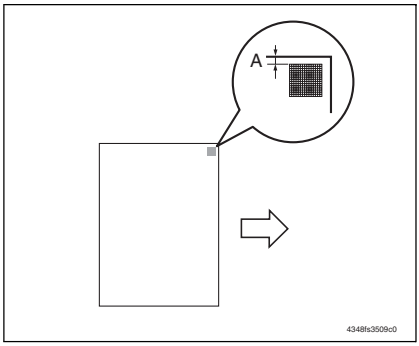
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the Main Unit Service Manual.

2. Touch [Machine] → [Printer Area].
3. Touch [Dup Print Positioning: Side Edge] → [3rd.].



4. Press the Start key to let the machine produce a test pattern.



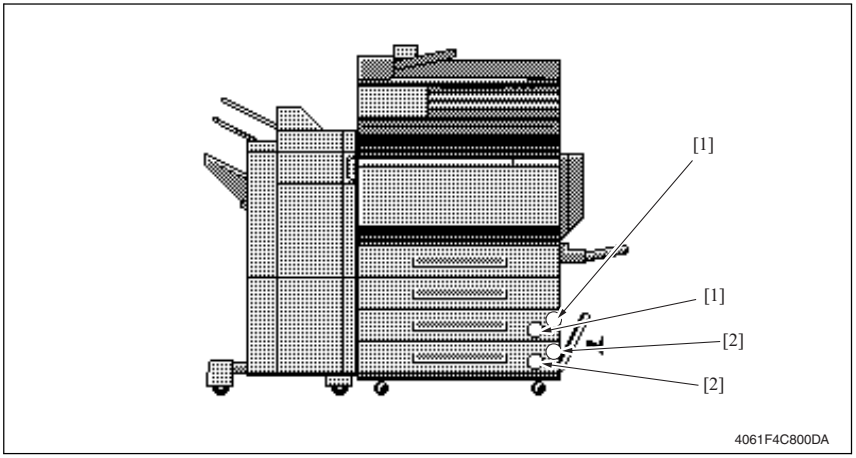
5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.
8. Repeat steps 1 to 7 similarly for the Tray 4.

Troubleshooting

7. Jam Display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

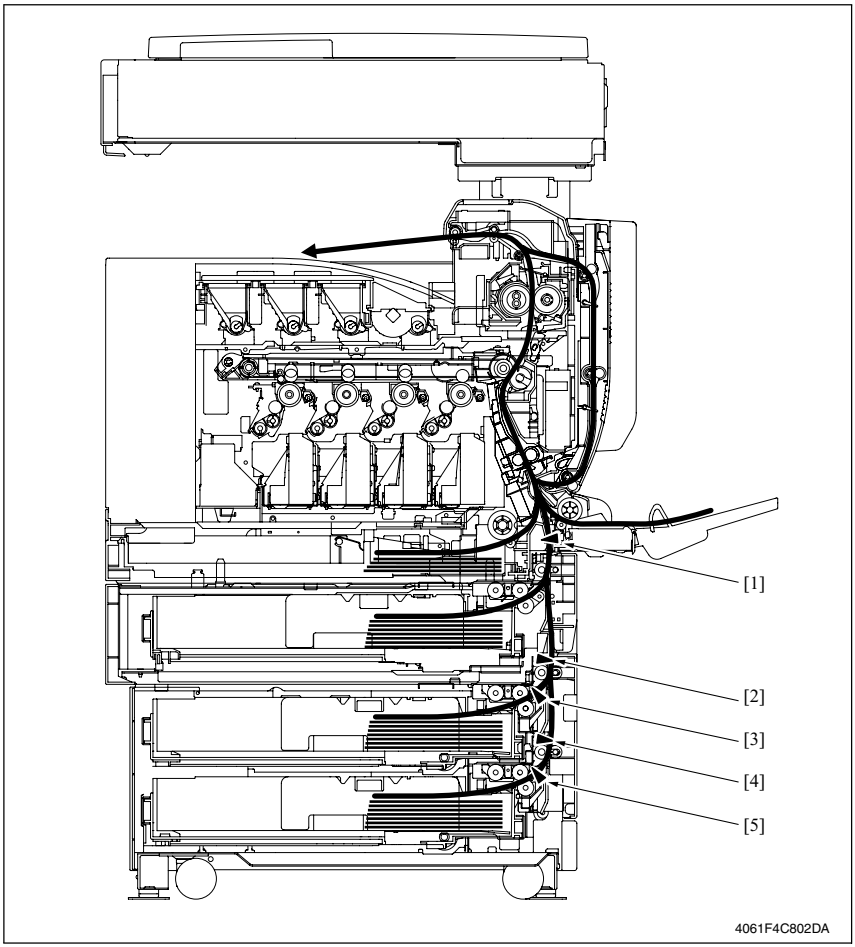


No.	Code	Misfeed location	Misfeed access location	Action
[1]	1301	Tray 3 Paper Take-Up Section	Right Door	☞ 22
	2001	Tray 3 Paper Vertical Transport Section		
[2]	1401	Tray 4 Paper Take-Up Section	Right Door	☞ 23
	2001	Tray 4 Paper Vertical Transport Section		

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1]	Tray2 Vertical Transport Sensor	PC8-PC	[4]	Tray4 Vertical Transport Sensor	PC126-PC
[2]	Tray3 Vertical Transport Sensor	PC117-PC	[5]	Tray4 Take-up Sensor	PC125-PC
[3]	Tray3 Take-up Sensor	PC116-PC			

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 Tray3 Paper Take-Up section/Vertical Transport section misfeed (PC-103/PC-203)

A. Detection timing

Type	Description
Tray3 Paper Take-Up section/Vertical transport section misfeed detection	The leading edge of the paper does not block the Tray3 Vertical Transport Sensor (PC117-PC) even after the set period of time has elapsed after the Tray3 Take-up Motor (M122-PC) is energized.
	The Tray2 Vertical Transport Sensor (PC8-PC) is not blocked even after the lapse of a given period of time after the Tray3 Vertical Transport Sensor (PC117-PC) has been blocked by a paper.
Tray 3 Vertical Transport section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at Tray 3 take-up.
Tray3 detection of paper remaining	The Tray3 Vertical Transport Sensor (PC117-PC) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray3 Take-up Sensor (PC116-PC) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray3 Vertical Transport Sensor (PC117-PC) is not unblocked even after the lapse of a given period of time after PC117-PC has been blocked by a paper.

B. Action

Relevant electrical parts	
Tray3 Take-up Sensor (PC116-PC) Tray3 Vertical Transport Sensor (PC117-PC) Tray2 Vertical Transport Sensor (PC8-PC) Tray3 Take-up Motor (M122-PC) Registration Roller Sensor (PC1)	Control Board (PWB-C2 PC)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1 I/O, sensor check	PWB-M CNSEN-8 (ON)	C250 C-3
3	PC116-PC I/O, sensor check	PWB-C2 PC PJ6C2 PC-8 (ON)	PC-103, PC-203 C-4
4	PC117-PC I/O, sensor check	PWB-C2 PC PJ6C2 PC-11 (ON)	PC-103, PC-203 C-4
5	PC8-PC I/O, sensor check	PWB-Z-PC PJ6Z PC-11 (ON)	C250 S-25
6	M122-PC operation check	PWB-C2 PC PJ5C2 PC-1 to 4	PC-103, PC-203 C-4
7	PWB-C2 PC replacement	—	—

7.3.3 Tray4 Paper Take-Up section/Vertical Transport section misfeed (PC-203)

A. Detection timing

Type	Description
Tray4 Paper Take-Up section/Vertical transport section misfeed detection	The leading edge of the paper does not block the Tray4 Vertical Transport Sensor (PC126-PC) even after the set period of time has elapsed after the Tray4 Take-up Motor (M123-PC) is energized.
	The Tray3 Vertical Transport Sensor (PC117-PC) is not blocked even after the lapse of a given period of time after the Tray4 Vertical Transport Sensor (PC126-PC) has been blocked by a paper.
Tray 4 Vertical Transport section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at Tray 4 take-up.
Tray4 detection of paper remaining	The Tray4 Vertical Transport Sensor (PC126-PC) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray4 Take-up Sensor (PC125-PC) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray4 Vertical Transport Sensor (PC126-PC) is not unblocked even after the lapse of a given period of time after PC126-PC has been blocked by a paper.

B. Action

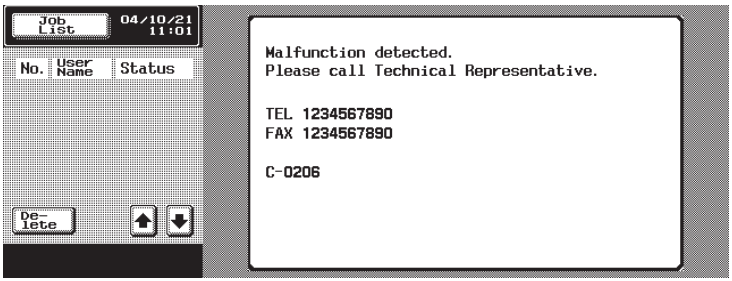
Relevant electrical parts	
Tray4 Take-up Sensor (PC125-PC) Tray4 Vertical Transport Sensor (PC126-PC) Tray3 Vertical Transport Sensor (PC117-PC) Tray4 Take-up Motor (M123-PC) Registration Roller Sensor (PC1)	Control Board (PWB-C2 PC)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1 I/O, sensor check	PWB-M CNSEN-8 (ON)	C250 C-3
3	PC125-PC I/O, sensor check	PWB-C2 PC PJ10C2 PC-8 (ON)	PC-203 G to H-6
4	PC126-PC I/O, sensor check	PWB-C2 PC PJ11C2 PC-2 (ON)	PC-203 G to H-6
5	PC117-PC I/O, sensor check	PWB-C2 PC PJ6C2 PC-11 (ON)	PC-103, PC-203 C-4
6	M123-PC operation check	PWB-C2 PC PJ9C2 PC-1 to 4	PC-203 G to H-5
7	PWB-C2 PC replacement	—	—

8. Trouble code

8.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4061F4E504DA

8.2 Trouble code list

Code	Item	Description
C0206	Tray3 Lift-Up Failure	• The Lift-up Upper Sensor is not blocked even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
C0208	Tray4 Lift-Up Failure	

- Open and close the Front Door, or turn OFF the Main Power Switch. Then, wait for 10 sec. or more and turn ON the Main Power Switch to reset the malfunction display.

8.3 Solution

8.3.1 C0206: Tray3 Lift-Up Failure
C0208: Tray4 Lift-Up Failure

Relevant electrical parts	
Tray3 Lift-up Motor (M124-PC) Tray4 Lift-Up Motor (M125-PC) Tray3 Lift-up Upper Sensor (PC114-PC) Tray4 Lift-up Upper Sensor (PC123-PC)	Control Board (PWB-C2 PC) Main unit Mechanical Control Board (PWB-M) Main unit DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Check the PU1 connector for proper connection, and correct as necessary.	—	—
4	PC114-PC I/O, sensor check	PWB-C2 PC PJ6C2 PC-3 (ON)	PC-203 C-3
5	PC123-PC I/O, sensor check	PWB-C2 PC PJ10C2 PC-3 (ON)	PC-203 G to H-5
6	M124-PC operation check	PWB-C2 PC PJ4C2 PC-4 to 5	PC-103, PC-203 C-5
7	M125-PC operation check	PWB-C2 PC PJ8C2 PC-12 to 13	PC-203 G to H-3
8	PWB-C2 PC replacement	—	—
9	PWB-M replacement	—	—
10	PU1 replacement	—	—

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-403

2005.07

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

PC-403

General

1. Product specification 1

Maintenance

2. Periodical check 3
2.1 Maintenance procedure (Periodical check parts) 3
2.1.1 Replacing the Separation Roller Assy 3
2.1.2 Replacing the Paper Take-up Roller 4
2.1.3 Replacing the Pick-up Roller 6
3. Other 8
3.1 Disassembly/Adjustment prohibited items 8
3.2 Disassembly/Assembly/Cleaning list (Other parts) 9
3.2.1 Disassembly/Assembly parts list 9
3.2.2 Cleaning parts list 9
3.3 Disassembly/Assembly procedure 10
3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover 10
3.3.2 Rear Cover 10
3.3.3 Drawer 11
3.3.4 Wire 11
3.4 Cleaning procedure 14
3.4.1 Separation Roller 14
3.4.2 Paper Take-up Roller 14
3.4.3 Pick-up Roller 14
3.4.4 Vertical Transport Roller 15

Adjustment/Setting

4. How to use the adjustment section 17
5. Sensor check 18
5.1 Check procedure 18
5.2 Sensor check list 18
5.2.1 Sensor check screen 18
5.2.2 Sensor check list 19
6. Mechanical adjustment 20
6.1 Adjusting the paper reference position 20

6.1.1 Print Positioning: Side Edge 20
6.1.2 Dup Print Positioning: Side Edge 22
6.2 Shifter movement timing belt adjustment 22

Troubleshooting

7. Jam Display 25
7.1 Misfeed display 25
7.1.1 Misfeed display resetting procedure 25
7.2 Sensor layout 26
7.3 Solution 27
7.3.1 Initial check items 27
7.3.2 LCT Paper Take-Up section/Vertical Transport section misfeed 28
8. Trouble code 29
8.1 Trouble code display 29
8.2 Trouble code list 30
8.3 Solution 32
8.3.1 C0001: LCT communication error 32
8.3.2 C0209: LCT Elevator Motor Failure 32
8.3.3 C0210: LCT Lift Failure 33
8.3.4 C0212: LCT Lock Release Failure 33
8.3.5 C0213: LCT Shift Gate Operation Failure 34
8.3.6 C0214: LCT Shift Failure 34
8.3.7 C0215: LCT Shift Motor Failure 35

General

1. Product specification

A. Type

Name	Large Capacity Cabinet
Type	Front loading type LCC
Installation	Desk type
Document Alignment	Center

B. Paper type

Type	Plain paper	60 to 90 g/m^2 (16 to 24 lb)
	Recycled paper	60 to 90 g/m^2 (16 to 24 lb)
Size	A4, 8.5 × 11	
Capacity	2500 sheets (80 g/m^2, 21.25 lb)	

C. Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 %
Max. Power Consumption	45 W or less
Dimensions	570 mm (W) × 548 mm (D) × 263 mm (H) 22.5 inch (W) × 21.5 inch (D) × 10.25 inch (H)
Weight	26.0 kg (57.25 lb)

D. Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

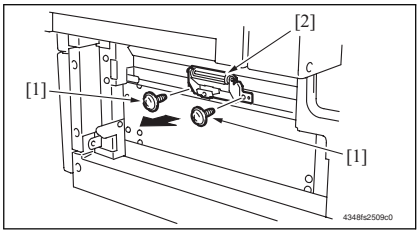
Blank Page

Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

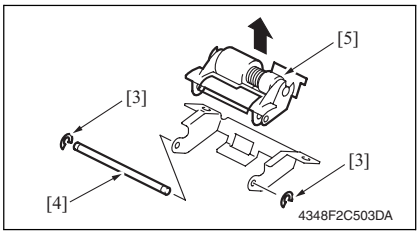
2.1.1 Replacing the Separation Roller Assy



1. Remove the Right Door.

☞ 10

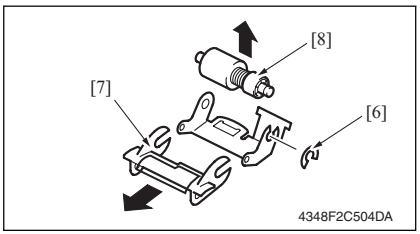
2. Remove two screws [1] and remove the Paper Separation Roller Mounting Bracket Assy [2].



3. Remove two C-rings [3] and the shaft [4], and remove the Paper Separation Roller fixing Bracket Assy [5].

NOTE

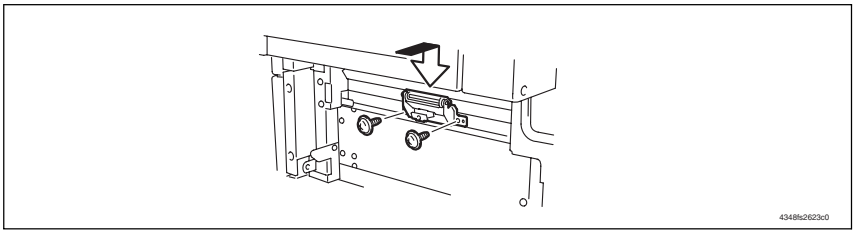
- **Be careful not to lose spring at this time.**



4. Remove the C-ring [6], the Guide [7], and remove the Separation Roller Assy [8].

NOTE

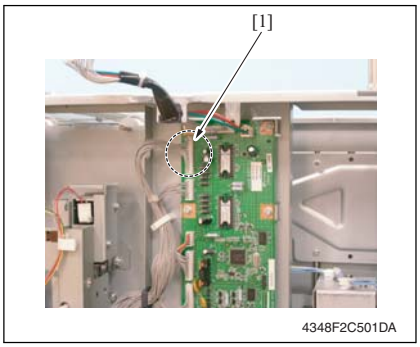
- **Install the Separation Roller Assy while pressing the holder down so that it aligns to the metal bracket of the machine.**
- **Make sure that the Separation Roller Assy is not tilted to the right or left when installed.**



NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

2.1.2 Replacing the Paper Take-up Roller



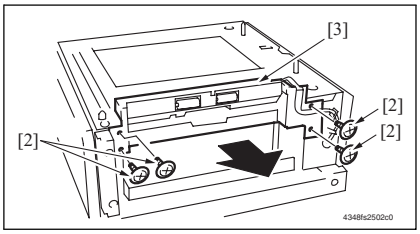
1. Remove the Rear Cover and the Rear Right Cover.

☞ 10

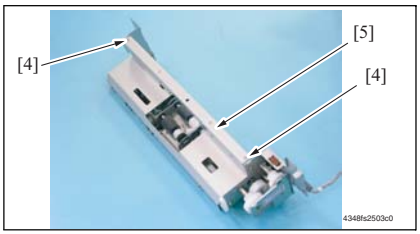
2. Remove the Tray3.
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 2 in page 3 “Separation Roller Assy.”

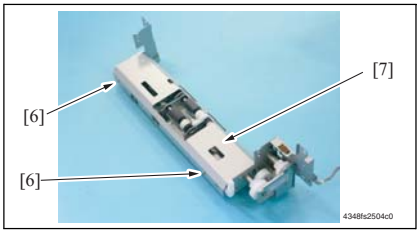
4. Disconnect the connector [1] from the Main Control Board.



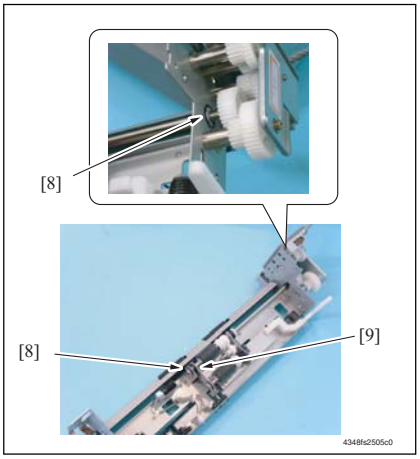
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



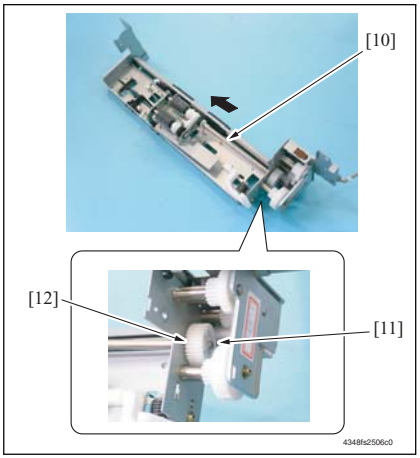
6. Remove two screws [4] and remove the Mounting Frame [5] for the Paper Separation Roller Mounting Bracket Assy.



7. Remove two screws [6] and remove the Paper Take-up Cover [7].

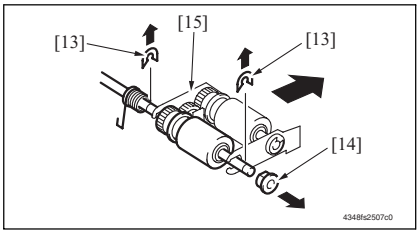


8. Remove two C-rings [8] and remove the bushing [9].

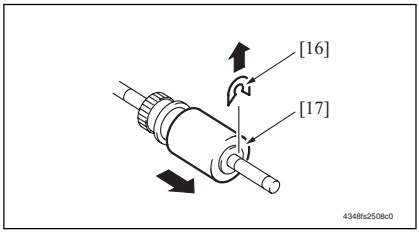


9. Shift the Shaft Assy [10] in the orientation as shown on the left, and remove the C-ring [11] and the gear [12].

10. Remove the shaft Assy [10].



11. Remove two E-rings [13] and the bushing [14], and remove the Pick-up Roller Fixing Bracket Assy [15].

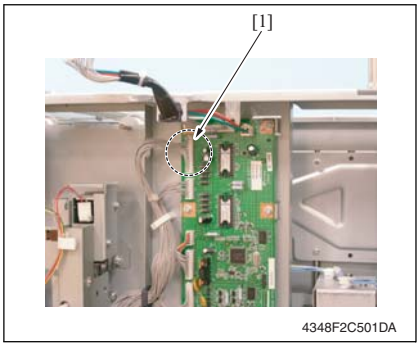


12. Remove the C-ring [16] and remove the Paper Take-up Roller [17].

NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

2.1.3 Replacing the Pick-up Roller



1. Remove the Rear Cover and the Rear Right Cover.

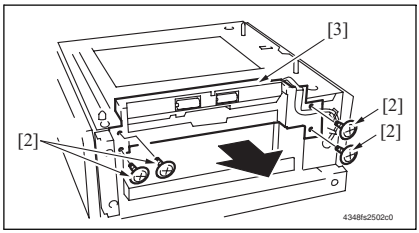
☞ 10

2. Remove the Tray 3.

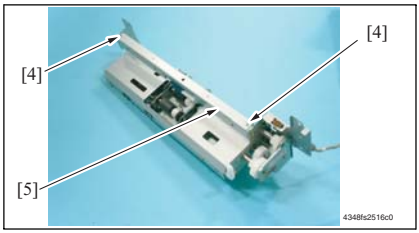
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 2 in page 3 “Separation Roller Assy.”

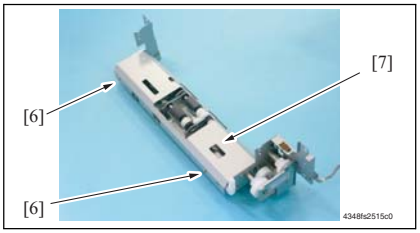
4. Disconnect the connector [1] from the Main Control Board.



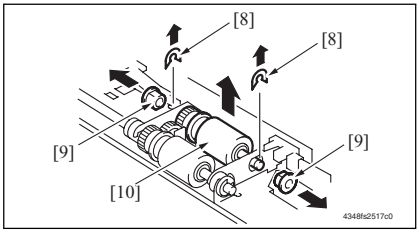
5. Remove four screws [2] and remove the Paper Take-up Unit [3].



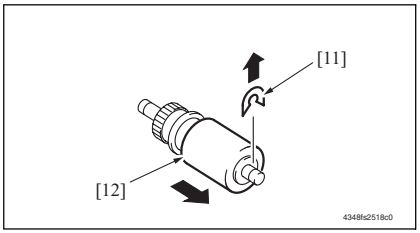
6. Remove two screws [4] and remove the Paper Separation Roller Mounting Bracket Assy [5] together with frame.



7. Remove two screws [6] and remove the Paper Take-up Cover [7].



8. Remove two C-rings [8], two bushings [9], and the Pick-up Roller Assy [10].



9. Remove the C-ring [11] and remove the Pick-up Roller [12].

NOTE

- **Replace the Separation Roller Assy, Paper Take-up Roller and Pick-up Roller at the same time.**

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in this manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ Caution

- **When removing a circuit board or other electrical component, refer to "SAFETY AND IMPORTANT WARNING ITEMS" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly/Cleaning list (Other parts)

3.2.1 Disassembly/Assembly parts list

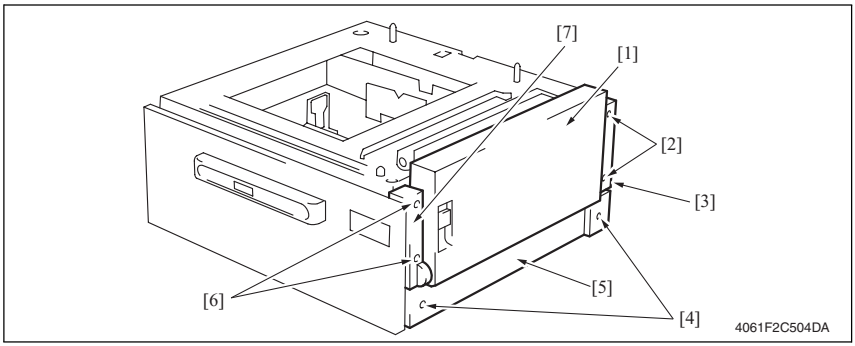
No	Section	Part name	Ref. page
1	Exterior Parts	Right Door	☞ 10
2		Rear Right Cover	☞ 10
3		Lower Right Cover	☞ 10
4		Front Right Cover	☞ 10
5		Rear Cover	☞ 10
6	Unit	Drawer	☞ 11
7		Wire	☞ 11

3.2.2 Cleaning parts list

No	Section	Part name	Ref. page
1	Paper feed section	Separation Roller	☞ 14
2		Paper Take-up Roller	☞ 14
3		Pick-up Roller	☞ 14
4	Transport section	Vertical Transport Roller	☞ 15

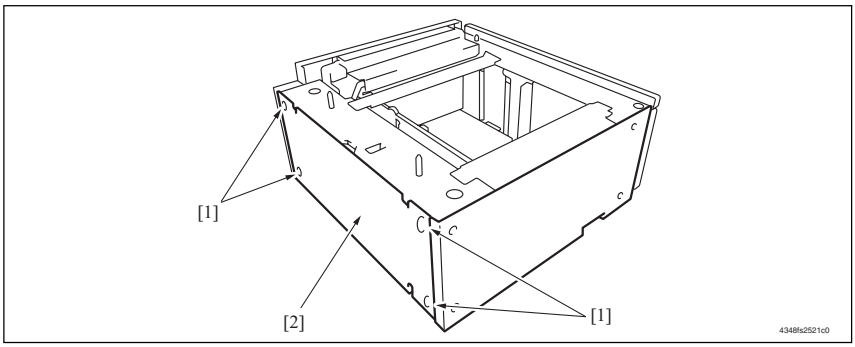
3.3 Disassembly/Assembly procedure

3.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover



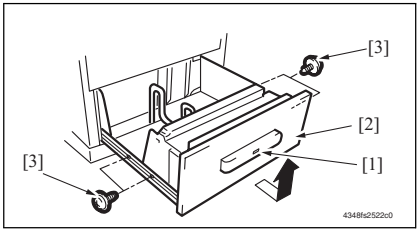
1. Open the Right Door [1].
2. Remove the Right Door [1].
3. Remove two screws [2] and remove the Rear Right Cover [3].
4. Remove two screws [4] and remove the Lower Right Cover [5].
5. Remove two screws [6] and remove the Front Right Cover [7].

3.3.2 Rear Cover

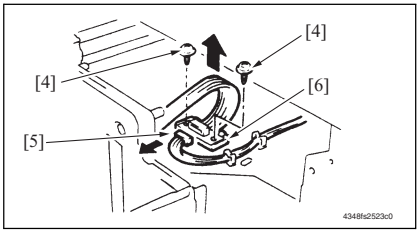


1. Remove four screws [1] and remove the Rear Cover [2].

3.3.3 Drawer



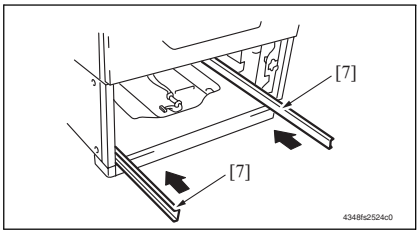
1. Press the Drawer Eject Button [1] and slide out the drawer [2].
2. Remove the paper.
3. Remove four screws [3] and slide out the drawer [2].



4. Remove two screws [4], the connector [5], and remove the Connector Board [6].
5. Remove the Drawer.

NOTE

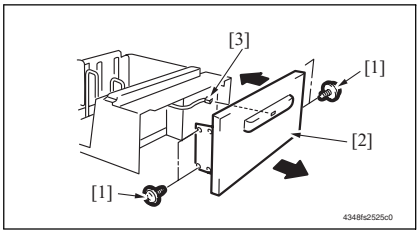
- **When removing the Connector Board, use care not to drop the drawer from the guide rail.**



⚠ Caution

- **To prevent injuries, press the guide rail [7] inside the machine.**

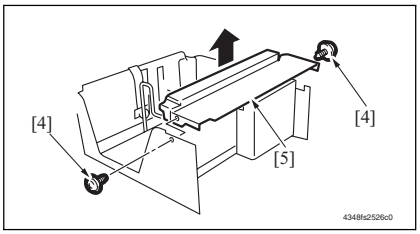
3.3.4 Wire



1. Remove the Drawer.

☞ 11

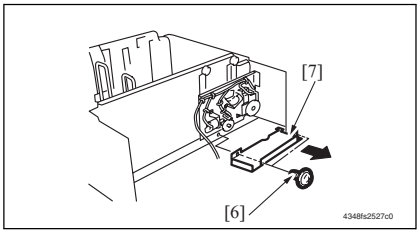
2. Remove four screws [1] and remove the Front Cover Assy [2].
3. Disconnect the connector [3].



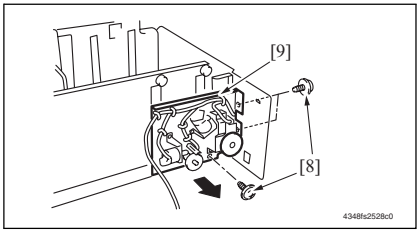
4. Remove two screws [4] and the Inner Cover Assy [5].

NOTE

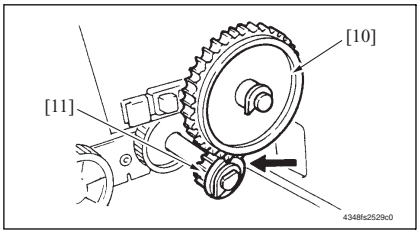
- **Do not peel off pulley protective mylar sheet.**



5. Remove two screws [6] and remove the Driver Cover [7].

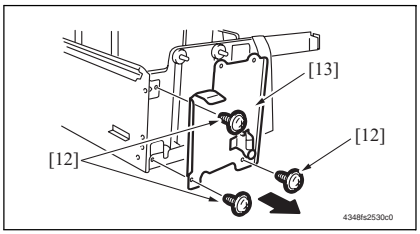


6. Remove three screws [8] and remove the Driver Mounting Plate Assy [9].

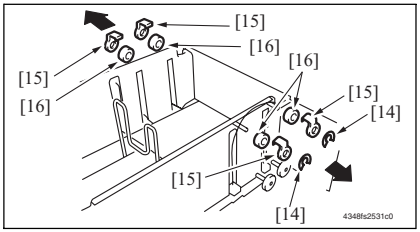


NOTE

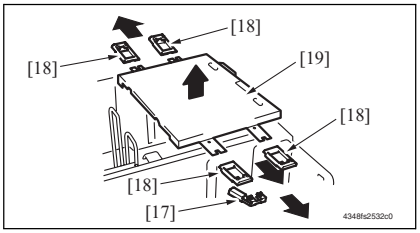
- **When assembling, be sure to engage rib of gear 1 [10] with convex section of gear 2 [11].**



7. Remove three screws [12] and remove the Reinforcement Bracket Assy [13].



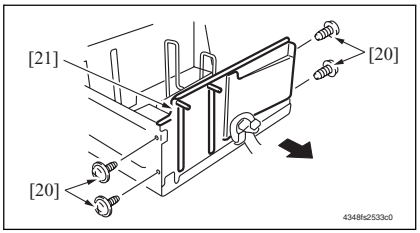
8. Remove two C-clips [14].
9. Remove four Pulley Covers [15].
10. Unhook four pulleys [16].



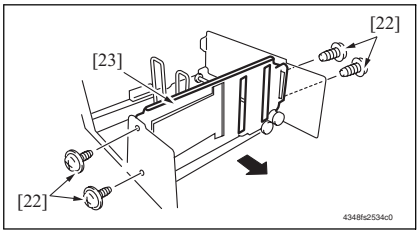
11. Remove the Ground Plate [17].
12. Remove four Cable Holding Jigs [18] and remove the Main Drawer [19].

NOTE

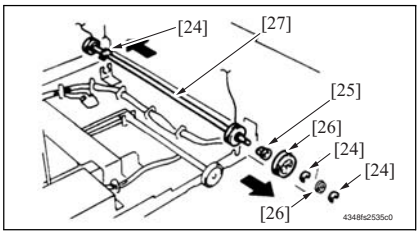
- **Use care not to bend the wires.**



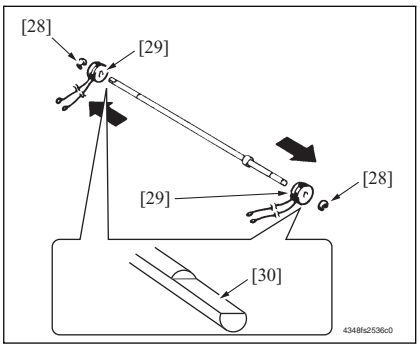
13. Remove four screws [20] and remove the Rear Trailing Edge Assy [21].



14. Remove four screws [22] and remove the Front Trailing Edge Assy [23].



15. Remove three C-rings [24], the bushing [25], and two gears [26].
16. Remove the Take-up Drum Assy [27].



17. Remove two C-rings [28]and the Take-up Drum [29].

NOTE

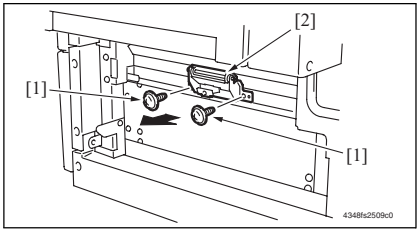
- **Take care not to lose fixing pins.**
- **When reinstalling the Take-up Drum, check that the direction of the wire coming from both Take-up Drums are the same.**
- **Install so that cut parts [30] at both ends of shaft face up.**

3.4 Cleaning procedure

NOTE

- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

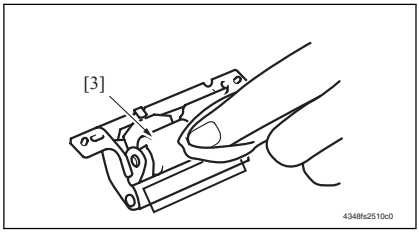
3.4.1 Separation Roller



1. Remove the Right Door.

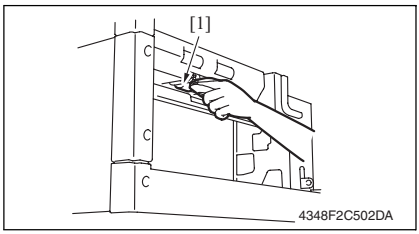
☞ 10

2. Remove two screws [1] and remove the Paper Separation Roller Mounting Bracket Assy [2].



3. Using a soft cloth dampened with alcohol, wipe the Separation Roller [3] clean of dirt.

3.4.2 Paper Take-up Roller

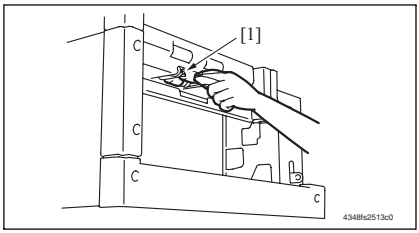


1. Remove the Tray3.
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 2 in page 14 “Cleaning of Separation Roller.”

3. Using a soft cloth dampened with alcohol, wipe the Paper Take-Up Roller [1] clean of dirt.

3.4.3 Pick-up Roller

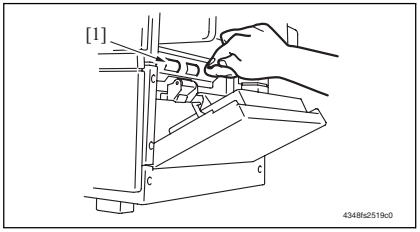


1. Remove the Tray3.
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ See the procedures 1 to 2 in page 14 “Cleaning of Separation Roller.”

3. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller [1] clean of dirt.

3.4.4 Vertical Transport Roller



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Vertical Transport Roller [1] clean of dirt.

Blank Page

Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance Checks

Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The Original Glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ Caution

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.**
- **Special care should be used when handling the Fusing Unit which can be extremely hot.**
- **The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC Drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Call the Service Mode to the screen.

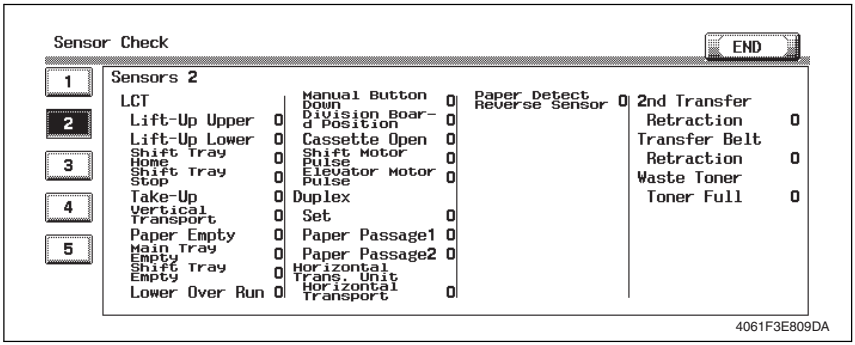
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the Main Unit Service Manual.

2. Touch the [State Confirmation] key.
3. Touch the [Sensor Check] key.

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



5.2.2 Sensor check list

A. Sensor monitor 2

Symbol	Panel display	Part/Signal name	Operation characteristics/ Panel display	
			1	0
PC4-LCT	Lift-Up Upper	Lift-Up Upper Sensor	Raised Position	Not raised
PC13-LCT	Lift-Up Lower	Lift-Up Lower Sensor	Lowered Position	Not lowered
PC12-LCT	Shift Tray Home	Shift Tray Home Sensor	At home	Not at home
PC11-LCT	Shift Tray Stop	Shift Tray Stop Sensor	Return position	Not at return position
PC1-LCT	Take-Up	Paper Take-up Motor	Paper present	Paper not present
PC2-LCT	Vertical Transport	Vertical Transport Sensor	Paper present	Paper not present
PC3-LCT	Paper Empty	Paper Empty Sensor	Paper present	Paper not present
PWB-E LCT	Main Tray Empty	Main Tray Empty Sensor Board	Paper present	Paper not present
PC9-LCT	Shift Tray Empty	Shift Tray Empty Sensor	Paper present	Paper not present
PC7-LCT	Lower Over Run	Lower Over Run Sensor	malfunction	operational
UN1-LCT	Manual Button Down	Manual Button Down Board	ON	OFF
PC14-LCT	Division Board Position	Division Board Position Sensor	At home	Not at home
PC6-LCT	Cassette Open	Cassette Open Sensor	Set	Out of position
PC8-LCT	Shift Motor Pulse	Shift Motor Pulse Sensor	Blocked	Unblocked
PC10-LCT	Elevator Motor Pulse	Elevator Motor Pulse Sensor	Blocked	Unblocked

6. Mechanical adjustment

6.1 Adjusting the paper reference position

NOTE

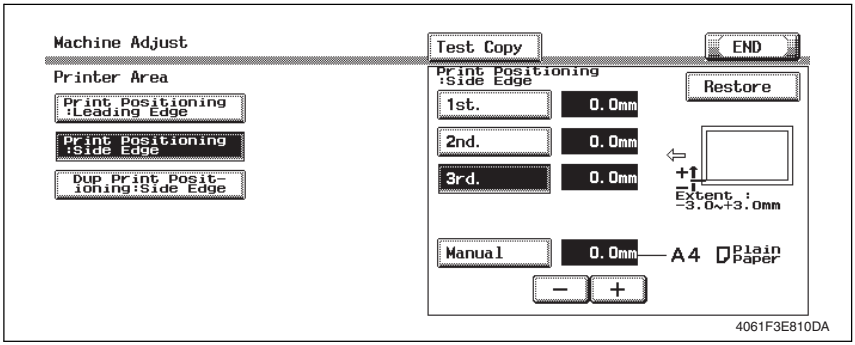
- **Make this adjustment after any of the following procedures has been performed.**
  When the PH Unit has been replaced.
  When the image on the print is offset in the sub scan direction.
  When a faint image occurs on the leading edge of the image.

6.1.1 Print Positioning: Side Edge

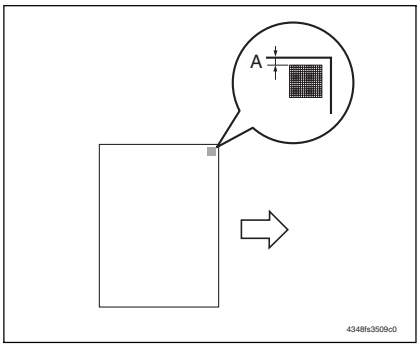
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the Main Unit Service Manual.

2. Touch [Machine] → [Printer Area].
3. Touch [Print Positioning: Side Edge] → [3rd.].

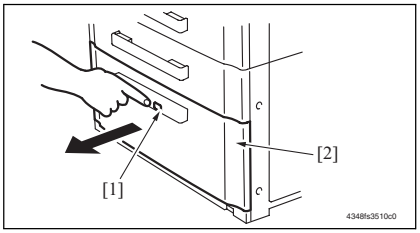


4. Press the Start key to let the machine produce a test pattern.

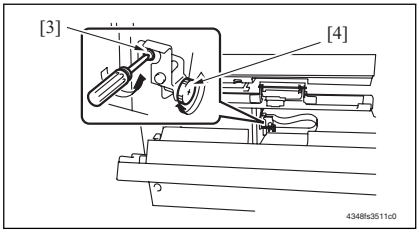


5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.

- **If adjustment cannot be completed only by inputting numeric value, perform adjustment according to the following procedure.**



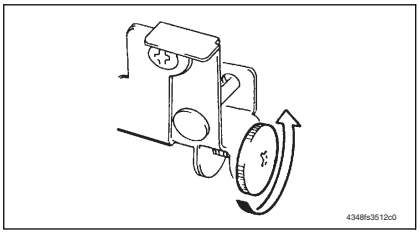
8. Press the Drawer Release button [1] and then slide out the drawer [2] from the Paper Feed Cabinet.



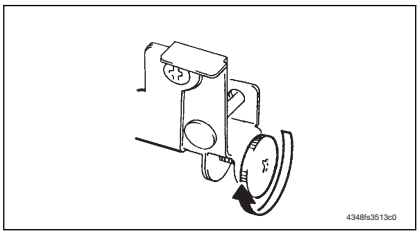
9. Open the Right Door.
10. Loosen the adjustment screw [3] and turn screw D [4] to make the adjustment.

NOTE

- **Do not damage the passage surface of the Right Door.**



- If width A is greater than the specified value:
  Turn screw D counterclockwise.



- If width A is smaller than the specified value:
  Turn screw D clockwise.

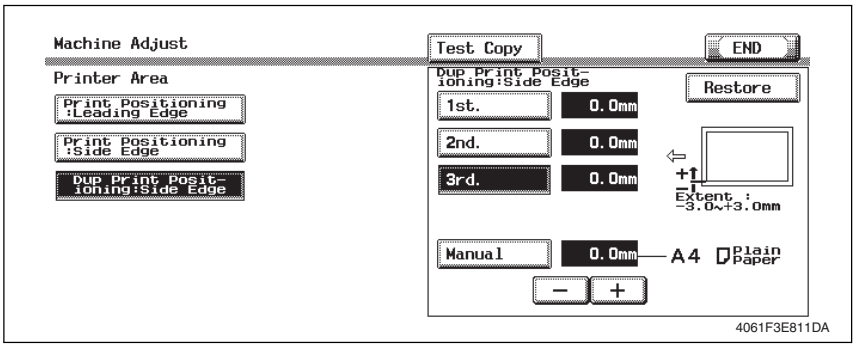
11. Perform another test print and check the reference deviation.
12. Repeat the adjustment until the reference line falls within the specified range.
13. Tighten the adjustment screw.

6.1.2 Dup Print Positioning: Side Edge

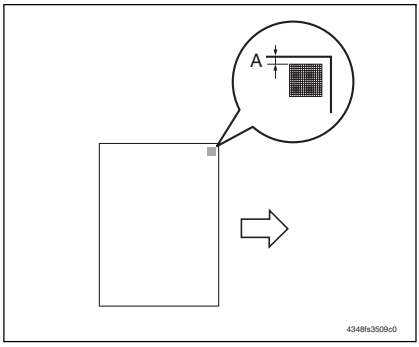
1. Call the Service Mode to the screen.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the Main Unit Service Manual.

2. Touch [Machine] → [Printer Area].
3. Touch [Dup Print Positioning: Side Edge] → [3rd.].

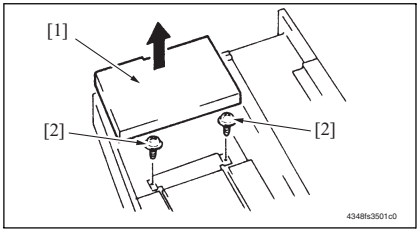


4. Press the Start key to let the machine produce a test pattern.



5. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
6. If the measured width A falls outside the specified range, enter the correction value.
7. Produce another test print and check to see if width A falls within the specified range.

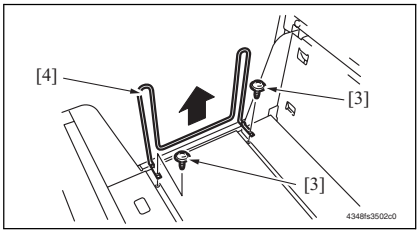
6.2 Shifter movement timing belt adjustment



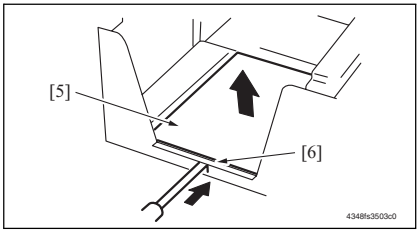
1. Slide out the Drawer and remove it.
2. Lift the Main Drawer [1], and remove two screws [2] fixing the Shift Tray.

NOTE

- **When reinstalling, use caution because the wire of the Main Drawer comes off easily.**

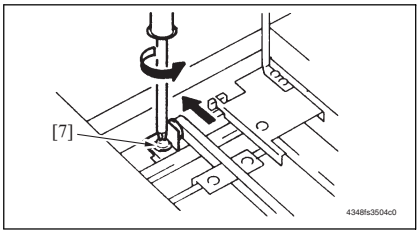


3. Remove two screws [3] and remove the Shifter [4].



4. Push the tab [6] of the Shift Tray [5] as shown on the left and release the lock.

5. Remove the Shift Tray [5].



6. Loosen the screw [7] fixing the Tension Pulley Assy as shown to the left and move it in the direction of the arrow.

7. After moving the Shifter, tighten the fixing screw [7].

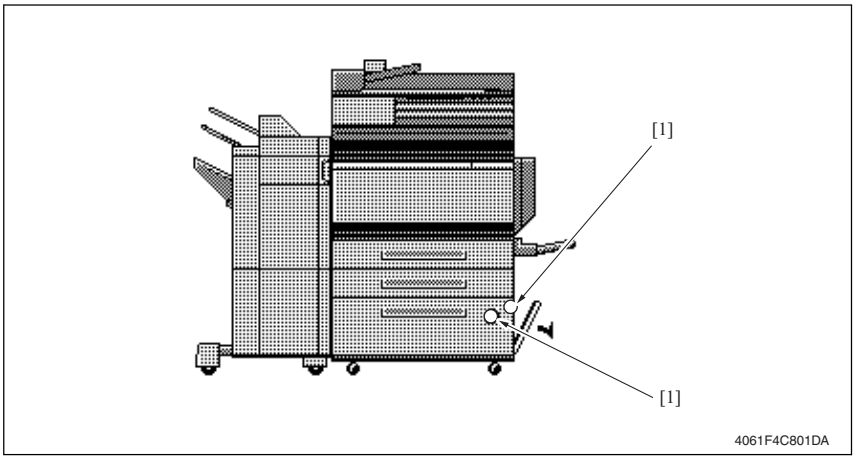
Blank Page

Troubleshooting

7. Jam Display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

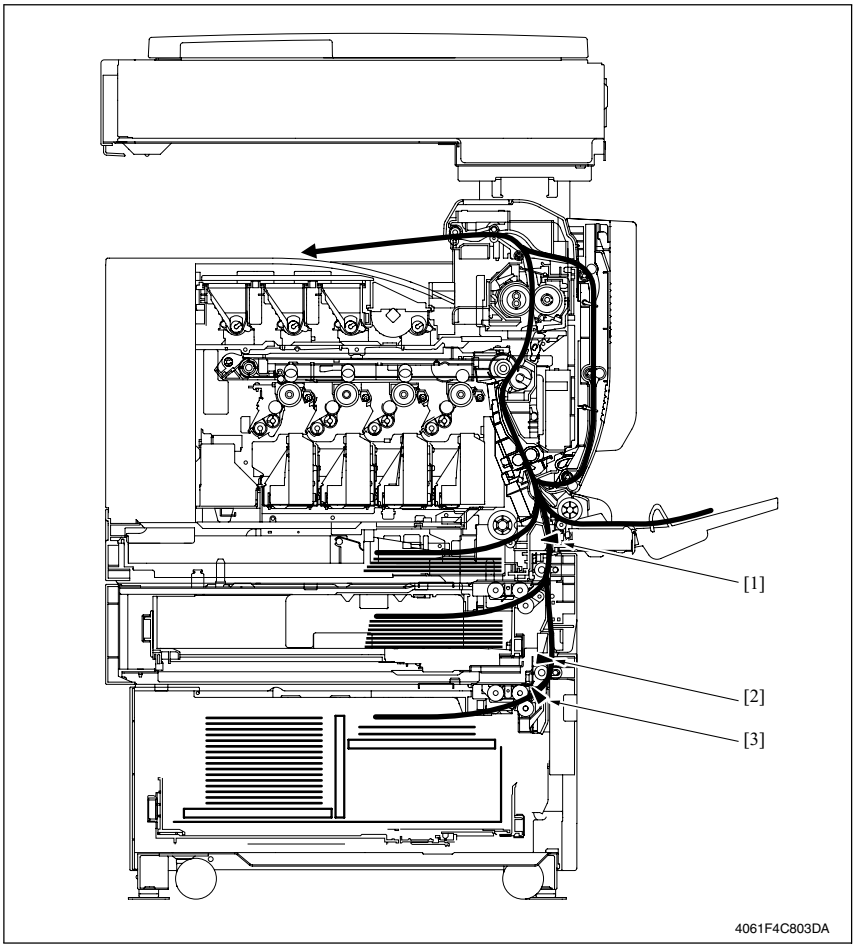


No.	Code	Misfeed location	Misfeed access location	Action
[1]	1501	LCT Paper Take-Up section	Right Door	☞ 28
	2001	LCT Paper Vertical Transport Section		

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1] Tray 2 Vertical Transport Sensor PC8-PC
[2] Vertical Transport Sensor PC2-LCT
[3] Paper Take-up Motor PC1-LCT

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 LCT Paper Take-Up section/Vertical Transport section misfeed

A. Detection timing

Type	Description
LCT Paper Take-Up section misfeed detection	The leading edge of the paper does not block the Paper Take-up Motor (PC1-LCT) or the Vertical Transport Sensor (PC2-LCT) even after the set period of time has elapsed after the Take-up Motor (M1-LCT) is energized.
LCT Vertical transport section misfeed detection	The Tray 2 Vertical Transport Sensor (PC8-PC) is not blocked even after the lapse of a given period of time after the Vertical Transport Sensor (PC2-LCT) has been blocked by a paper.
LCT Vertical Transport section Loop Registration Reversing JAM	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at LCT take-up.
LCT detection of paper remaining	The Vertical Transport Sensor (PC2-LCT) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Paper Take-up Motor (PC1-LCT) is blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Paper Take-up Motor (PC1-LCT) is not unblocked even after the lapse of a given period of time after PC1-LCT has been blocked by a paper.
	The Vertical Transport Sensor (PC2-LCT) is not unblocked even after the lapse of a given period of time after PC2-LCT has been blocked by a paper.

B. Action

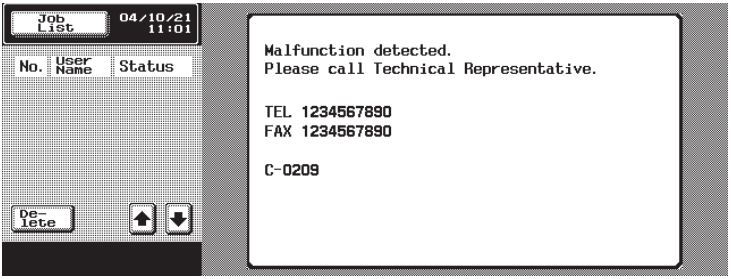
Relevant electrical parts	
Paper Take-up Motor (PC1-LCT) Vertical Transport Sensor (PC2-LCT) Tray 2 Vertical Transport Sensor (PC8-PC) Take-up Motor (M1-LCT) Registration Roller Sensor (PC1)	Control Board (PWB-C1 LCT) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1 I/O, sensor check	—	—
3	PC1-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-2 (ON)	PC-403 C-7
4	PC2-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-5 (ON)	PC-403 C-7
5	PC8-PC I/O, sensor check	PWB-Z-PC PJ6Z PC-11 (ON)	C250 S-25
6	M1-LCT operation check	PWB-C1 LCT PJ6C1 LCT-1 to 4	PC-403 C-8
7	PWB-C1 LCT replacement	—	—
8	PWB-M replacement	—	—

8. Trouble code

8.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4061F4E704DA

8.2 Trouble code list

Code	Item	Description
C0001	LCT communication error	• Due to a software malfunction, etc., the time on the watchdog timer has run out and a reset is performed.
C0102	LCT Vertical Transport Motor malfunction	• The Lock signal remains HIGH for a predetermined continuous period of time while the LCT Vertical Transport Motor is turning.
C0209	LCT Elevator Motor Failure	• The Elevator Motor Pulse Sensor (PC10-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Elevator Motor (M5-LCT) is turning backward/forward (raise/lower).
C0210	LCT Lift Failure	• The Lift-Up Upper Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operation began. • The Lift-Up Upper Sensor (PC4-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began. • The Lift-Up Lower Sensor (PC13-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began. • The Lift-Up Upper Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operating. • The Lift-Up Lower Sensor (PC13-LCT) is not blocked even after the set period of time has elapsed after the paper lift-down operation began. • The Lift-Up Lower Sensor (PC13-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began. • The Lift-Up Upper Sensor (PC4-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began. • The Lower Over Run Sensor (PC7-LCT) is blocked while the paper lift-down operating.
C0212	LCT ejection failure	• The drawer cannot be determined to be out of position even after the set period of time has elapsed after the Tray Lock Solenoid (SL1-LCT) is energized after the lowering operation is finished.
C0213	LCT Shift Gate malfunction	• The Division Board Position Sensor (PC14-LCT) cannot be set to L even after the set period of time has elapsed after the operation of the Division Board Motor (M3-LCT) began with the Division Board Position Sensor (PC14-LCT) set to L.

Code	Item	Description
C0214	LCT shifting failure	• The Shift Tray Stop Sensor (PC11-LCT) is not blocked even after the set period of time has elapsed after the shift operation began (shift to the right). • The Shift Tray Stop Sensor (PC11-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right). • The Shifter Home Position Sensor (PC12-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right). • The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set period of time has elapsed after the return operation began (shift to the left). • The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left). • The Shift Tray Stop Sensor (PC11-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left).
C0215	LCT Shift Motor malfunction	• The Shift Motor Pulse Sensor (PC8-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Shift Tray Motor (M4-LCT) is turning backward/forward (raise/lower).

• Open and close the Front Door, or turn OFF the Main Power Switch. Then, wait for 10 sec. or more and turn ON the Main Power Switch to reset the malfunction display.

8.3 Solution

8.3.1 C0001: LCT communication error

Relevant electrical parts	
Control Board (PWB-C1 LCT)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Turn OFF the Main Power Switch, wait for 10 sec. or more, and turn ON the Main Power Switch.	—	—
2	PWB-C1 LCT replacement	—	—

8.3.2 C0209: LCT Elevator Motor Failure

Relevant electrical parts	
Elevator Motor (M5-LCT) Elevator Motor Pulse Sensor (PC10-LCT)	Interface Board (PWB-H LCT) Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC10-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-5 (ON)	PC-403 G to H-4
4	M5-LCT operation check	PWB-H LCT PJ2H<B> LCT-6 to 7	PC-403 G to H-5
5	PWB-H LCT replacement	—	—
6	PWB-C1 LCT replacement	—	—

8.3.3 C0210: LCT Lift Failure

Relevant electrical parts	
Lift-Up Upper Sensor (PC4-LCT) Lift-Up Lower Sensor (PC13-LCT) Elevator Motor Pulse Sensor (PC10-LCT) Lower Over Run Sensor (PC7-LCT)	Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PC4-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-12 (ON)	PC-403 C-6
3	PC13-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-9 (ON)	PC-403 G to H-3
4	PC10-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-5 (ON)	PC-403 G to H-4
5	PC7-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-2 (ON)	PC-403 G to H-5
6	PWB-C1 LCT replacement	—	—

8.3.4 C0212: LCT Lock Release Failure

Relevant electrical parts	
Tray Lock Solenoid (SL1-LCT)	Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the SL1-LCT connector for proper connection, and correct as necessary.	—	—
2	SL1-LCT operation check	PWB-C1 LCT PJ7C1 LCT-4 (ON)	PC-403 C-8
3	PWB-C1 LCT replacement	—	—

8.3.5 C0213: LCT Shift Gate Operation Failure

Relevant electrical parts	
Division Board Position Sensor (PC14-LCT) Division Board Motor (M3-LCT)	Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC14-LCT I/O, sensor check	PWB-H LCT PJ2H<B> LCT-1 (ON)	PC-403 G to H-6
4	M3-LCT operation check	PWB-H LCT PJ2H<B> LCT-2 to 3	PC-403 G to H-6
5	PWB-C1 LCT replacement	—	—

8.3.6 C0214: LCT Shift Failure

Relevant electrical parts	
Shift Motor Pulse Sensor (PC8-LCT) Shift Tray Stop Sensor (PC11-LCT) Shifter Home Position Sensor (PC12-LCT)	Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PC8-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-3 (ON)	PC-403 G to H-5
3	PC11-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-7 (ON)	PC-403 G to H-4
4	PC12-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-8 (ON)	PC-403 G to H-4
5	PWB-C1 LCT replacement	—	—

8.3.7 C0215: LCT Shift Motor Failure

Relevant electrical parts	
Shift Tray Motor (M4-LCT) Shift Motor Pulse Sensor (PC8-LCT)	Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC8-LCT I/O, sensor check	PWB-H LCT PJ2H<A> LCT-3 (ON)	PC-403 G to H-5
4	M4-LCT operation check	PWB-H LCT PJ2H<B> LCT-4 to 5	PC-403 G to H-6
5	PWB-C1 LCT replacement	—	—

Blank Page

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

AD-503

2005.07

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

AD-503

General

1. Product specifications 1

Maintenance

2. Periodical check 3
2.1 Maintenance procedure (Periodical check parts) 3
2.1.1 Cleaning Transport Roller / Roll 1, 2 3
2.1.2 Cleaning Transport Roller / Roll 3 3
2.1.3 Cleaning Ventilation Section 4
3. Other 5
3.1 Disassembly/Adjustment prohibited items 5
3.2 Disassembly/Assembly list (Other parts) 6
3.3 Disassembly/Assembly procedure 6
3.3.1 Duplex Unit 6

Adjustment/Setting

4. How to use the adjustment section 7
5. Sensor check 8
5.1 Check procedure 8
5.2 Sensor check list 8
5.2.1 Sensor check screen 8
5.2.2 Sensor check list 8
6. Mechanical adjustment 9
6.1 Adjusting the paper reference position 9

Troubleshooting

7. Jam Display 11
7.1 Misfeed display 11
7.1.1 Misfeed display resetting procedure 11
7.2 Sensor layout 11
7.3 Solution 12
7.3.1 Initial check items 12
7.3.2 Duplex Unit pre-registration section misfeed (AD-503) 13
7.3.3 Duplex Unit transport section misfeed (AD-503) 14

Blank Page

General

1. Product specifications

A. Type

Name	Duplex Unit
Type	Switchback and Circulating Duplex Unit
Installation	Mounted on the right side door of main unit
Document Alignment	Center

B. Paper type

Type	Plain paper	64 to 256 g/m^2 (17 to 68 lb)
Size	A5R to A3 Wide, 5.5 × 8.5R to 12 × 18	
Print paper size	width	139.7 to 311.1 mm (5.5 × 12.25 inch)
	length	148.0 to 457.2 mm (5.75 × 18 inch)

C. Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 % (supplied from the main unit)
Dimensions	110 mm (W) × 440 mm (D) × 345 mm (H) 4.25 inch (W) × 17.25 inch (D) × 13.5 inch (H)
Weight	3.0 kg (6.5 lb)

D. Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

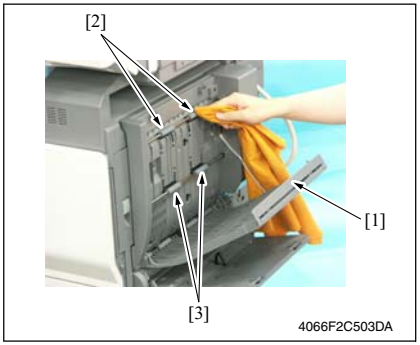
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

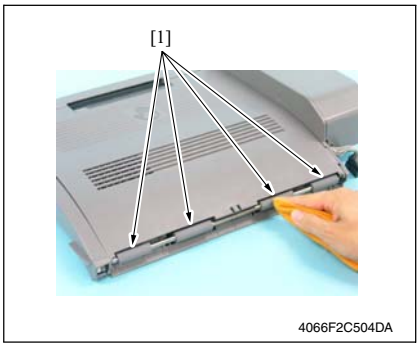
- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

2.1.1 Cleaning Transport Roller / Roll 1, 2



1. Open the Duplex Unit Door [1].
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller / Roll 1 [2], 2 [3] clean of dirt.

2.1.2 Cleaning Transport Roller / Roll 3

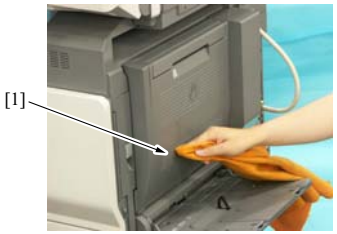


1. Remove the Duplex Unit.

☞ 6

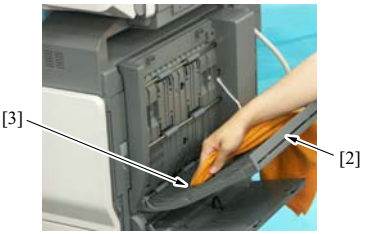
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller / Roll 3 [1] clean of dirt.

2.1.3 Cleaning Ventilation Section



4066F2C505DA

1. Using a soft cloth dampened with alcohol, wipe the outside of the Ventilation Section [1] clean of dirt.



4066F2C506DA

2. Open the Duplex Unit Door [2].
3. Using a soft cloth dampened with alcohol, wipe the inside of the Ventilation Section [3] clean of dirt.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in this manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ Caution

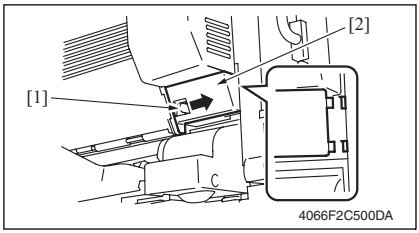
- **When removing a circuit board or other electrical component, refer to "SAFETY AND IMPORTANT WARNING ITEMS" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly list (Other parts)

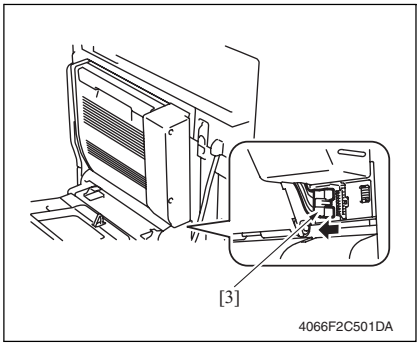
No	Section	Part name	Ref. page
1	Unit	Duplex Unit	☞ 6

3.3 Disassembly/Assembly procedure

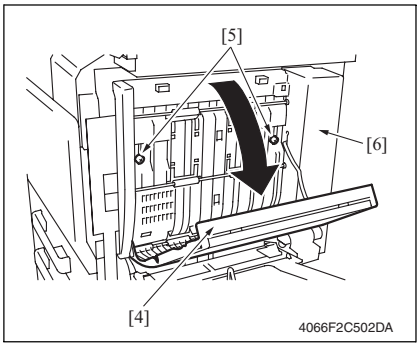
3.3.1 Duplex Unit



1. Release the tab [1], and remove the Connector Cover [2].



2. Disconnect the Connector [3].



3. Open the Duplex Unit Door [4].
4. Remove two screws [5], and remove the Duplex Unit [6].

Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance Checks

Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The Original Glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ Caution

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.**
- **Special care should be used when handling the Fusing Unit which can be extremely hot.**
- **The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC Drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Set the mode to the Service Mode.

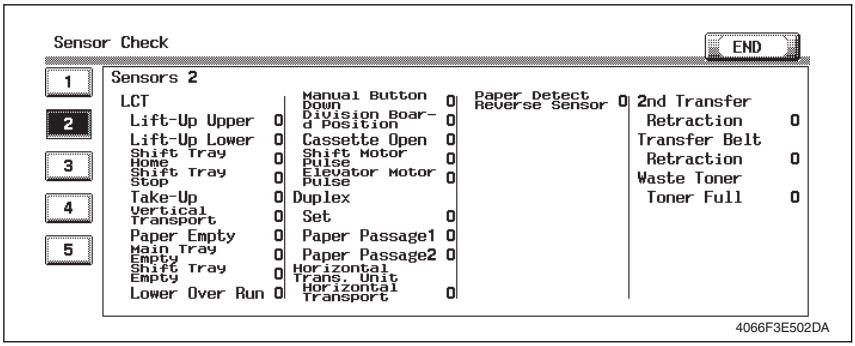
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

2. Touch the [State Confirmation] key.
3. Touch the [Sensor Check] key.

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



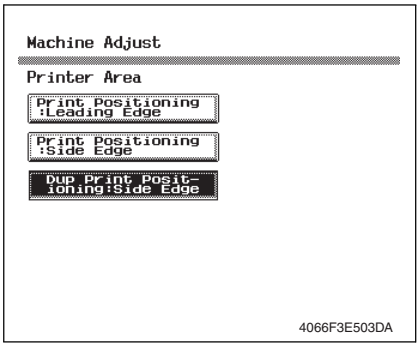
5.2.2 Sensor check list

A. Sensor monitor 2

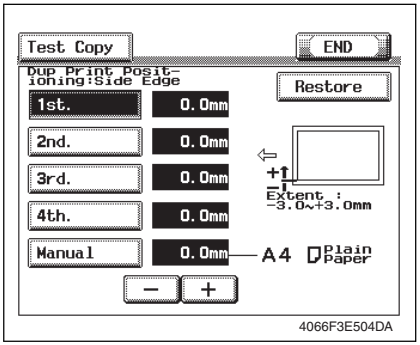
Symbol	Panel display	Part/Signal name	Operation characteristics/ Panel display	
			1	0
PCI DU	Set	Duplex Unit Door Set Sensor	OPEN	CLOSE
PC1 DU	Paper Passage 1	Duplex Unit Transport Sensor 1	Paper present	Paper not present
PC2 DU	Paper Passage 2	Duplex Unit Transport Sensor 2	Paper present	Paper not present

6. Mechanical adjustment

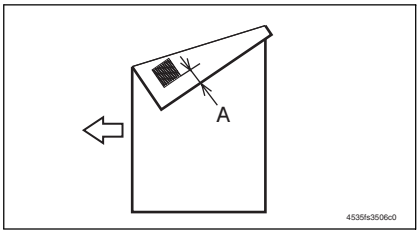
6.1 Adjusting the paper reference position



1. Call the Service Mode to the screen.
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.
2. Touch [Machine] → [Printer Area] → [Dup Print Positioning: Side Edge].



3. Touch [1st.] and then press the Start key. A test print will then be produced.



4. Measure the width of printed reference line A.
Specifications: 3.0 mm ± 2.0 mm
5. If the measured width A falls outside the specified range, enter the correction value.
6. Produce another test print and check for width A.

Blank Page

Troubleshooting

7. Jam Display

7.1 Misfeed display

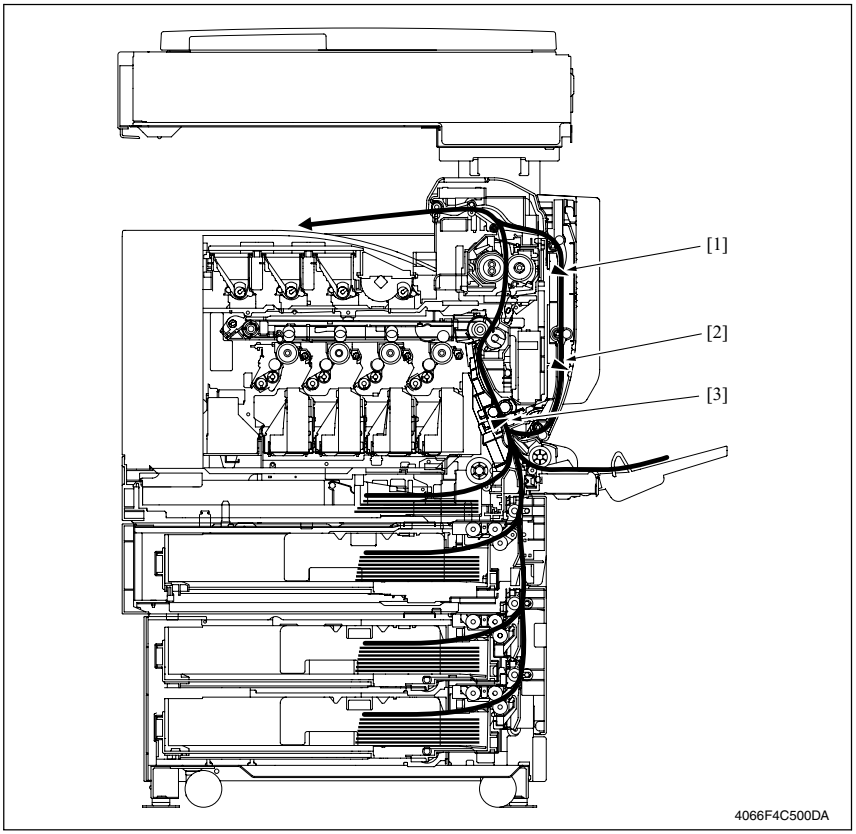
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Code	Misfeed location	Misfeed access location	Action
9201	Duplex Unit pre-registration section misfeed	Duplex Unit Door	☞ 13
9301	Duplex Unit transport section misfeed		☞ 14

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1] Duplex Unit Transport Sensor 1 PC1 DU
[2] Duplex Unit Transport Sensor 2 PC2 DU
[3] Registration Roller Sensor PC1

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 Duplex Unit pre-registration section misfeed (AD-503)

A. Detection timing

Type	Description
Detection of misfeed at Duplex pre-registration section	The Registration Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the Duplex Paper Take-up sequence started.
Duplex Unit Pre-registration section Loop Registration Reversing JAM detection	Rise timing of load for registration is earlier than the one for making the loop at front of the Registration Roller at pre-registration take-up.

B. Action

Relevant electrical parts	
Registration Roller Sensor (PC1)	Duplex Control Board (PWB-A DU) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1 I/O, sensor check	PWB-M CNSEN-3 (ON)	C250 C-3
3	PWB-A DU replacement	—	—
4	PWB-M replacement	—	—

7.3.3 Duplex Unit transport section misfeed (AD-503)

A. Detection timing

Type	Description
Detection of misfeed at Duplex Transport section	The Duplex Unit Transport Sensor 2 (PC2 DU) is not blocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 1 (PC1 DU) is blocked by the paper.
	The Duplex Unit Transport Sensor 1 (PC1 DU) is not unblocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 1 (PC1 DU) is blocked by the paper.
	The Duplex Unit Transport Sensor 2 (PC2 DU) is not unblocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 2 (PC2 DU) is blocked by the paper.
Detection of paper remaining in the Duplex Unit transport section	The Duplex Unit Transport Sensor 1 (PC1 DU) or Duplex Unit Transport Sensor 2 (PC2 DU) are blocked when the Main Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Registration Roller Sensor (PC1) Duplex Unit Transport Sensor 1 (PC1 DU) Duplex Unit Transport Sensor 2 (PC2 DU) Duplex Unit Switchback Motor (M1 DU) Duplex Unit Transport Motor (M2 DU)	Duplex Control Board (PWB-A DU) Mechanical Control Board (PWB-M)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1 I/O, sensor check	PWB-M CNSEN-3 (ON)	C250 C-3
3	PC1 DU I/O, sensor check	—	C250 Q-21
4	PC2 DU I/O, sensor check	—	C250 Q-21
5	M1 DU operation check	PWB-A DU PJ4A-1 to 4	C250 R-22
6	M2 DU operation check	PWB-A DU PJ5A-1 to 4	C250 R-22
7	PWB-A DU replacement	—	—
8	PWB-M replacement	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-501

2005.07

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

FS-501

General

1. Product specification 1

Maintenance

2. Other 5
2.1 Disassembly/Adjustment prohibited items 5
2.2 Disassembly/Assembly list (Other parts) 6
2.3 Disassembly/Assembly procedure 6
2.3.1 Upper Cover/Upper Front Cover/Lower Front Cover/Rear Cover 6
2.3.2 Stapling Unit 7
2.3.3 Job Separator JS-601 (Option) 7

Adjustment/Setting

3. How to use the adjustment section 9
4. Sensor Check 10
4.1 Check procedure 10
4.2 Sensor check list 10
4.2.1 Sensor check screen 10
5. Mechanical adjustment 12
5.1 Adjustment of the solenoids 12
5.1.1 Adjustment of the Upper / Lower Entrance Switching Solenoid (SL1-FN) 12
5.1.2 Adjustment of the 1st Tray Entrance Selecting Solenoid (SL2-FN) 12
5.2 Timing belt tension adjustment 12
5.2.1 Adjustment of the Upper Entrance Motor (M4-FN) Timing Belt 12
5.2.2 Adjustment of the Lower Entrance Motor (M2-FN) Timing Belt 12
5.2.3 Adjustment of the Exit Motor (M3-FN) Timing Belt 13
5.3 Adjustment of the Elevator Tray Upper Limit Sensor 13
6. Board switch 14
7. Test mode 15
7.1 Test mode setting procedure 15
7.2 Test mode operations 15
7.3 Operation in each test mode operation 16
7.3.1 1st Tray Exit 16
7.3.2 Elevator Tray Exit 16

7.3.3 Finisher Tray Exit 16
7.3.4 Shifting Operation 16
7.3.5 Aligning Plate Operation 17
7.3.6 Stapling Unit CD Movement 17
7.3.7 Exit Roller/Rolls Spacing 17
7.3.8 Storage Roller/Rolls Spacing 18
7.3.9 Elevator Tray Operation 18
7.3.10 Sensor Test 18

Troubleshooting

8. Jam Display 19
8.1 Misfeed display 19
8.1.1 Misfeed display resetting procedure 19
8.2 Sensor layout 20
8.3 Solution 21
8.3.1 Initial check items 21
8.3.2 Transport section misfeed 22
8.3.3 Tray1 Exit section misfeed 23
8.3.4 Job Tray Exit section misfeed (JS-601) 23
8.3.5 Elevator Tray Exit section misfeed 24
8.3.6 Paper Stack Exit section misfeed 24
8.3.7 Stapler section misfeed 25
8.3.8 Horizontal Transport section misfeed 25
9. Trouble code 26
9.1 Trouble code display 26
9.2 Trouble code list 26
9.3 Solution 27
9.3.1 C1182: Shift Motor drive malfunctions 27
9.3.2 C1183: Elevator Motor drive malfunctions 27
9.3.3 C1190: CD Aligning Motor drive malfunction 28
9.3.4 C11A1: Exit Roller/Rolls Spacing Motor drive malfunction 28
9.3.5 C11A2: Storage Roller/Rolls Spacing Motor drive malfunction 29
9.3.6 C11B0: Stapling Unit Moving Motor drive malfunction 29
9.3.7 C11B2: Stapling Motor drive malfunction 30

General

1. Product specification

A. Type

Type	Single Staple Finisher
Installation	Freestanding
Document Alignment	Center
Supplies	Staple Cartridge
Option	Job separator (JS-601)

B. Functions

Modes	Group, Sort, Offset/Group, Offset/Sort, Sort Staple and Group Staple

C. Paper type

Mode	Size	Type	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Group, Sort	A6R to A3 Wide 5-1/2 × 8-1/2R/ 5-1/2 × 8-1/2 to 12-1/4 × 18	Plain paper	60 to 256 g/m^2 16 to 68 lb	250 sheets	1st Tray	-
		Thick paper		20 sheets		
		OHP Film				
		Translucent paper				
		Postcard				
		Envelope				
		Label paper				
		Letterhead				
Offset/ Group, Offset/Sort	B5R/B5 to A3 Wide 7-1/4 × 10-1/2R/ 7-1/4 × 10-1/2 to 12-1/4 ×18	Plain paper	60 to 209 g/m^2 16 to 55-1/2 lb	1,000 sheets (A4R, 8-1/2 × 11R or smaller); 500 sheets (B4, 8-1/2 × 14 or larger)	Elevator Tray	-
		Thick paper				
Sort Staple, Group Staple	B5R/B5 to A3 7-1/4 × 10-1/2R/ 7-1/4 × 10-1/2 to 11 × 17	Plain paper	60 to 90 g/m^2 16 to 24 lb Cover Mode 91 to 209 g/m^2 24-1/4 to 55-1/2 lb	1,000 sheets (A4R, 8-1/2 × 11R or smaller); 500 sheets (B4, 8-1/2 × 14 or larger)	Elevator Tray	30 sheets* (60 to 80 g/m^2, 16 to 21-1/4 lb)

*: 20 sheets if originals of high ID (Color Wise 3) is used.

*: 15 sheets when using Color Copy 90 paper.

*: 20 sheets when using Hammermill Laser Print90 paper.

D. Stapling

Staple Filling Mode	Dedicated Staple Cartridge Mode (3000 staples)
Staple Detection	Available (Nearly Empty: 40 remaining staples)
Stapling Position	Diagonal back side (45 °C) 1 point
	Rear Parallel 1 point
Stapled Paper Size	B5R/B5 to A3 8-1/2 × 11R / 8-1/2 × 11 to 11 × 17
Manual Staple	None

E. Sort and staple capacity

(1) Stacking with no stapling, with the same size paper (80g/m^2)

- Determined by the item whose value is reached first among number of stacked paper, stacked height or mass of stack.
- Determined by the stacked height when stacking with stapling and no stapling mixed.

Number of stacked paper

FD	No. of Sheets
A4R, 8-1/2 × 11R or smaller	1000 sheets
B4, 8-1/2 × 14 or larger	500 sheets

Stacked height

FD	Height
A4R, 8-1/2 × 11R or smaller	150 mm
B4, 8-1/2 × 14 or larger	75 mm

Mass of stack

FD	Mass
A4R, 8-1/2 × 11R or smaller	correspond to 1000 sheets
B4, 8-1/2 × 14 or larger	correspond to 500 sheets

(2) Stacking with stapling

- (Reference: Actual value) Determined by number of Sets or number of Sheets based on number of bindings.

Number of stacked paper

No. of Sheets to be Stapled	No. of Sets	No. of Sheets
2 pages	100 sets	200 Sheets
3 to 5 pages	80 sets	400 Sheets
6 to 10 pages	60 sets	600 Sheets
11 to 20 pages	40 sets	800 Sheets
21 to 30 pages	33 sets	1000 Sheets

F. Machine specifications

Power Requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated by Finisher)
Max. Power Consumption	63 W or less
Dimensions	538 mm (W) × 637 mm (D) × 978 mm (H) 21-1/4 inch (W) × 25 inch (D) × 38-1/2 inch (H)
Weight	38.1 kg (84 lb)

G. Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in this manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ Caution

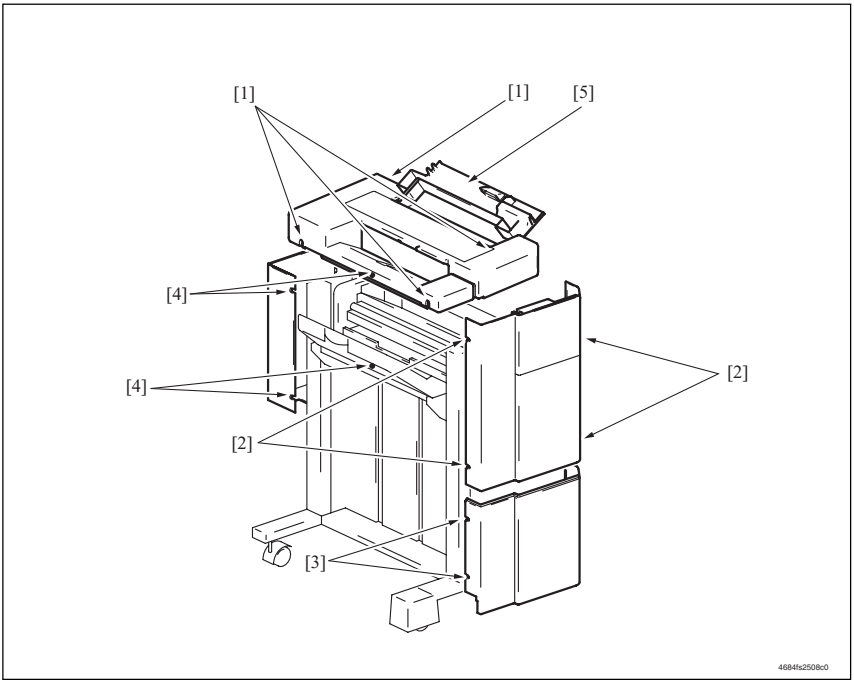
- **When removing a circuit board or other electrical component, refer to "SAFETY AND IMPORTANT WARNING ITEMS" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Upper Cover	☞ 6
2		Upper Front Cover	☞ 6
3		Lower Front Cover	☞ 6
4		Rear Cover	☞ 6
5	Unit	Stapling Unit	☞ 7
6	Option	Job Separator JS-601	☞ 7

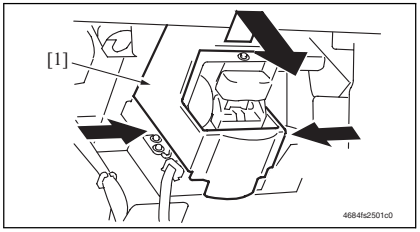
2.3 Disassembly/Assembly procedure

2.3.1 Upper Cover/Upper Front Cover/Lower Front Cover/Rear Cover

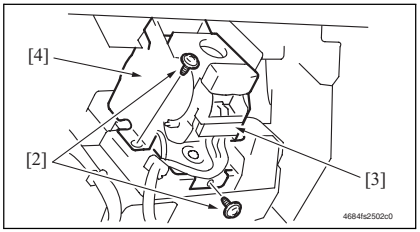


1. Open the Upper Door [5]
2. Remove four screws [1] and remove the Upper Cover.
3. Remove four screws [2] and remove the Upper Front Cover.
4. Remove two screws [3] and remove the Lower Front Cover.
5. Remove four screws [4] and remove the Rear Cover.

2.3.2 Stapling Unit

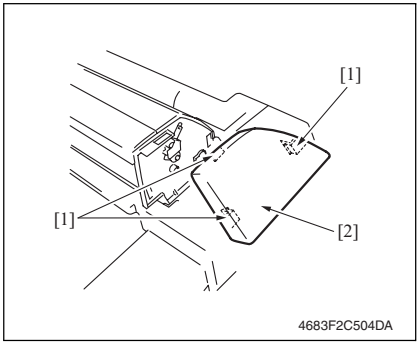


1. Holding both sides of the cover [1], lift the cover up and take it off.

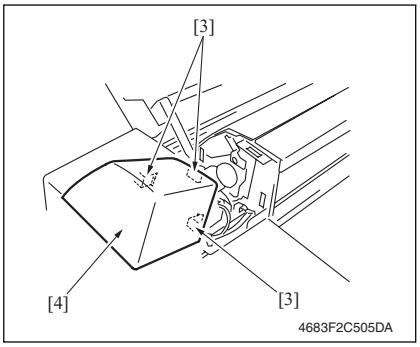


2. Remove two screws [2], disconnect the connector [3], and remove the Stapling Unit [4] from the moving cradle.

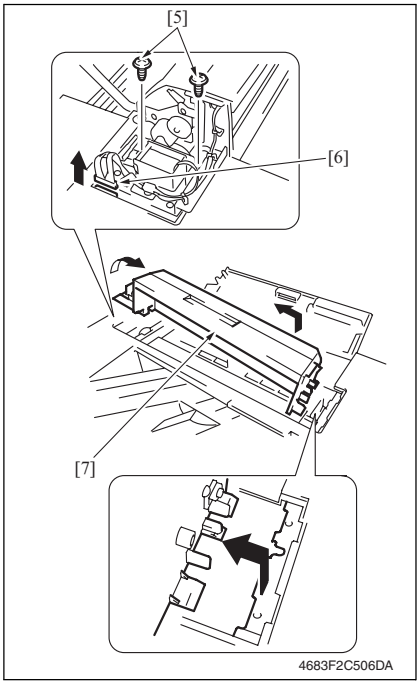
2.3.3 Job Separator JS-601 (Option)



1. Remove three claws [1], and remove the front cover of the Job Separator [2].



2. Remove three claws [3], and remove the rear cover of the Job Separator [4].



3. Remove two screws [5] and the connector [6], and remove the Job Separator [7].

Adjustment/Setting

3. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance Checks

Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The Original Glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ Caution

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.**
- **Special care should be used when handling the Fusing Unit which can be extremely hot.**
- **The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC Drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

4. Sensor Check

4.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

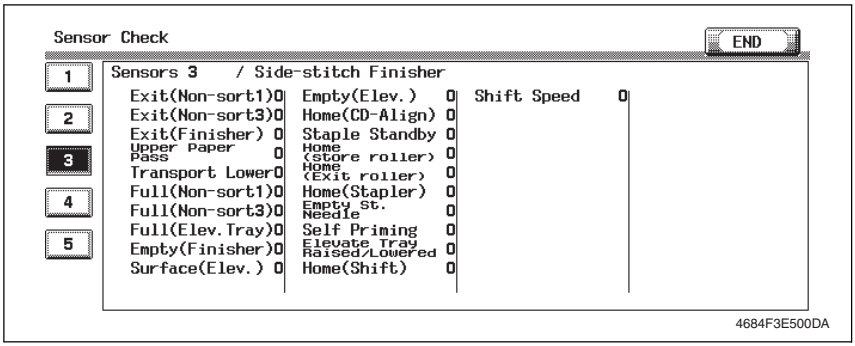
<Procedure>

1. Set the mode to the Service Mode.
2. Touch the [State Confirmation] Check key.
3. Touch the [Sensor Check] key.

4.2 Sensor check list

4.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



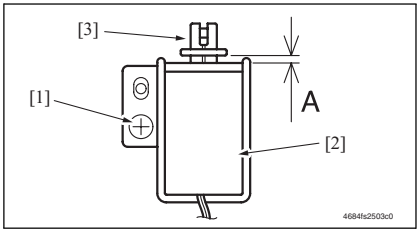
A. Sensor monitor 3

Symbol	Panel display	Part/Signal name	Operation characteristics/ Panel display	
			1	0
PC1-FN	Exit (Non-sort1)	1st Tray Exit Sensor	Paper present	Paper not present
PC19-FN	Exit (Non-sort3)	Job Tray Exit Sensor	Paper present	Paper not present
PC3-FN	Exit (Finisher)	Storage Sensor	Paper present	Paper not present
PC4-FN	Upper Paper Pass	Upper Entrance Sensor	Paper present	Paper not present
PC2-FN	Transport Lower	Lower Entrance Sensor	Paper present	Paper not present
PC6-FN	Full (Non-sort1)	1st Tray Full Sensor	Blocked	Unblocked
PC20-FN	Full (Non-sort3)	Job Tray Full Sensor	Paper present	Paper not present
PC7-FN	Full (Elev. Tray)	Elevator Tray Full Sensor	Blocked	Unblocked
PC5-FN	Empty (Finisher)	Finisher Tray Paper Sensor	Paper present	Paper not present
PWB-D FN	Surface (Elev.)	Elevator Tray Upper Limit Sensor PQ	Paper present	Paper not present
PC8-FN	Empty (Elev.)	Elevator Tray Paper Sensor	Blocked	Unblocked
PC9-FN	Home (CD-Align)	CD Aligning Home Position Sensor	Blocked	Unblocked
PC14-FN	Staple Standby	Staple Home Position Sensor	Blocked	Unblocked
PC12-FN	Home (store roller)	Storage Roller Home Position Sensor	Blocked	Unblocked
PC13-FN	Home (Exit roller)	Exit Roller Home Position Sensor	Blocked	Unblocked
-	Home (Stapler)	Stapler Home Sensor	Unblocked	Blocked
-	Empty St. Needle	Staple Empty Detecting Sensor	Unblocked	Blocked
-	Self Priming	Self-Priming Sensor	Unblocked	Blocked
S2-FN S3-FN	Elevate Tray Raised/ Lowered	Elevator Tray Upper Limit Switch Elevator Tray Lower Limit Switch	ON	OFF
PC10-FN	Home (Shift)	Shift Home Position Sensor	Blocked	Unblocked
PC11-FN	Shift Speed	Shift Motor Pulse Sensor	Unblocked	Blocked

5. Mechanical adjustment

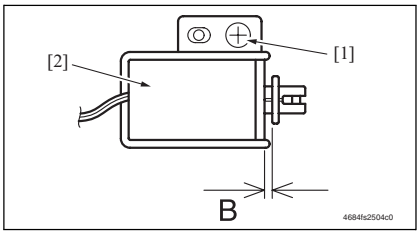
5.1 Adjustment of the solenoids

5.1.1 Adjustment of the Upper / Lower Entrance Switching Solenoid (SL1-FN)



1. Loosen the screw [1] that secures the solenoid in position.
2. Move the solenoid [2] up and down and lower the lever [3] downward. At this time, find a position at which the clearance at portion A becomes 0.5 mm or less. Then, tighten the screw [1].

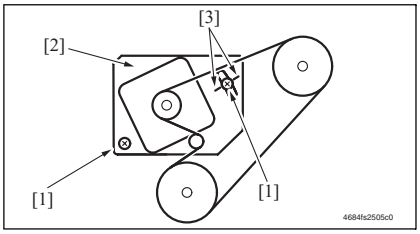
5.1.2 Adjustment of the 1st Tray Entrance Selecting Solenoid (SL2-FN)



1. Loosen the screw [1] that secures the solenoid in position.
2. Move the solenoid [2] to the right or left and, when dimension B measures 3.6 mm, tighten the screw [1].

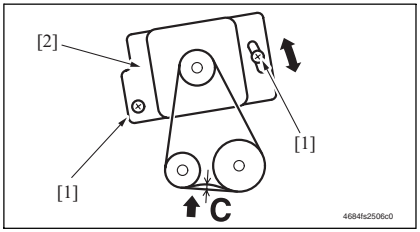
5.2 Timing belt tension adjustment

5.2.1 Adjustment of the Upper Entrance Motor (M4-FN) Timing Belt



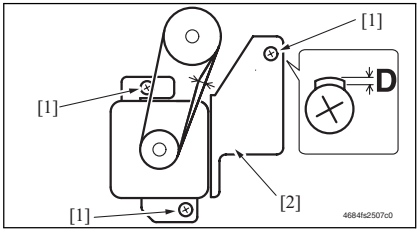
1. Loosen two screws [1].
2. Move the mounting bracket [2] and tighten the screw [1] so that the center of the screw [1] on the upper right side is located at the marked position [3] of the mounting bracket [2].

5.2.2 Adjustment of the Lower Entrance Motor (M2-FN) Timing Belt



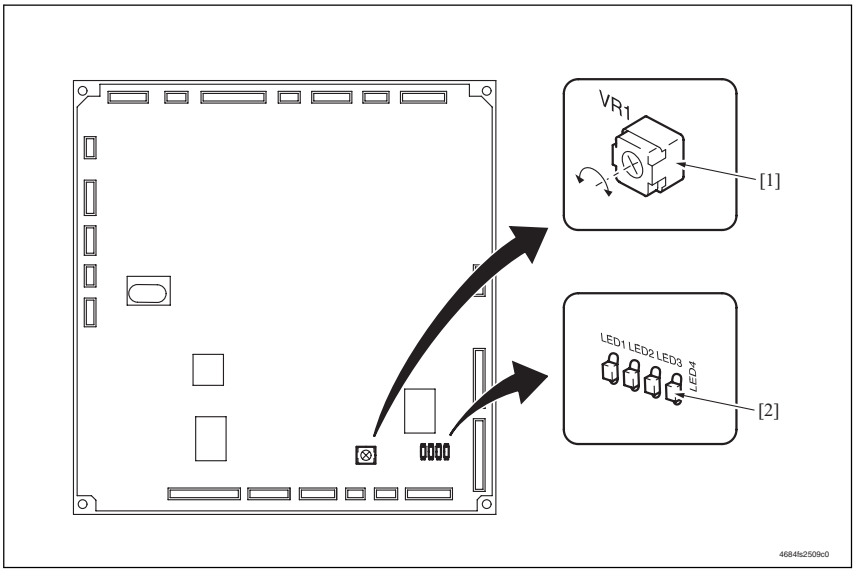
1. Loosen two screws [1].
2. Move the mounting bracket [2] and, when the belt deflects 2 mm at C, tighten two screws [1].

5.2.3 Adjustment of the Exit Motor (M3-FN) Timing Belt



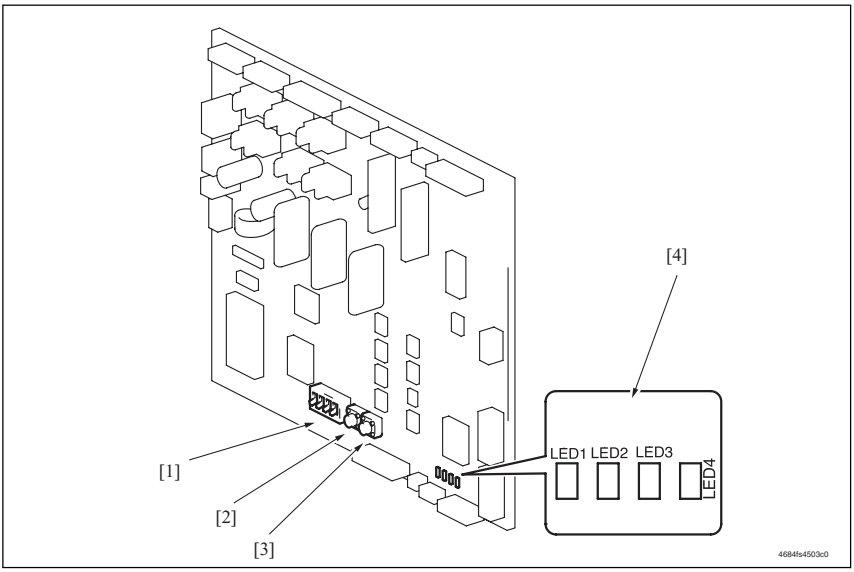
1. Loosen three screws [1].
2. Tighten three screws [1] so that the distance D between the upper end face of the head of three screws [1] and the upper end face of the slot in the mounting bracket [2] measures about 0.5 mm.

5.3 Adjustment of the Elevator Tray Upper Limit Sensor



1. Set up the sensor test mode.
2. Turn VR1 on PWB-A FN fully counterclockwise.
3. Using a sheet of paper, block the Elevator Tray Upper Limit Sensor LED (PWB-C FN).
4. Check that LED4 on PWB-A FN turns OFF. If it stays ON, slowly turn VR1 clockwise and stop turning it as soon as the LED turns OFF.

6. Board switch



	Symbol	Description
[1]	S1	Used to run the Test Mode operation.
[2]	S2	Used to run the Test Mode operation.
[3]	S3	DIP switch used to set the Test Mode operation.
[4]	LED1 to 4	Turn ON or OFF, or blink to indicate a specific condition during Test Mode operations.

7. Test mode

7.1 Test mode setting procedure

<Setting Procedure>

1. Turn OFF the Main Power Switch of the main unit.
2. Flip keys of the DIP switch into the ON or OFF position as necessary. (See Table below.)
3. Turn ON the Main Power Switch of the main unit.
4. This sets the Finisher into the corresponding Test Mode operation.

<Resetting Procedure>

- Flip all keys of the DIP switch to their respective initial positions. Then turn OFF the Main Power Switch of the main unit, wait for 10 sec. or more, and turn ON the Main Power Switch.

7.2 Test mode operations

Test mode operation	DIP Switch (S3)				LED			
	1	2	3	4	1	2	3	4
1st Tray exit	ON				●	❍	❍	❍
Elevator Tray exit		ON			❍	●	❍	❍
Finisher Tray exit	ON	ON			●	●	❍	❍
Shifting operation	ON		ON		●	❍	●	❍
Aligning Plate operation		ON	ON		❍	●	●	❍
Stapling Unit CD movement	ON	ON	ON		●	●	●	❍
Exit Roller/Rolls spacing				ON	❍	❍	❍	●
Storage Roller/Rolls spacing	ON			ON	●	❍	❍	●
Elevator Tray operation		ON		ON	❍	●	❍	●
Sensor test	ON		ON	ON	Indicates sensor state			

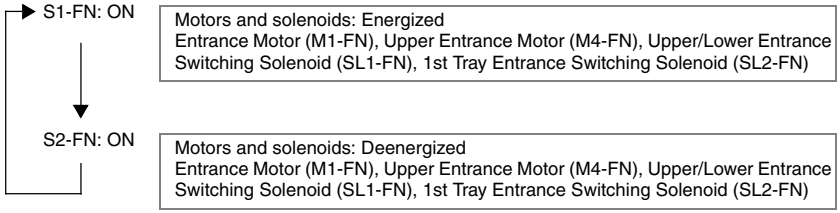
●: Blinking ❍: OFF

NOTE

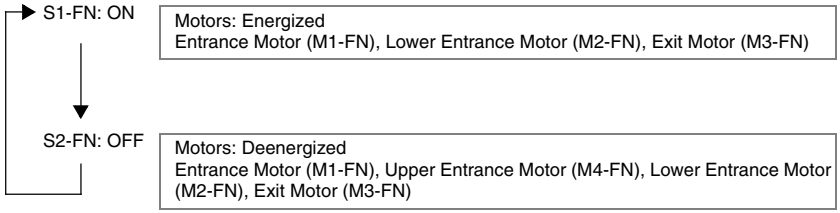
- **Whenever the Control Board (PWB-A FN) is to be replaced, take note of the initial positions of all keys of the DIP switch. After the replacement procedure has been completed, be sure to flip all keys of the DIP switch on the new Control Board (PWB-A FN) to their respective initial positions.**

7.3 Operation in each test mode operation

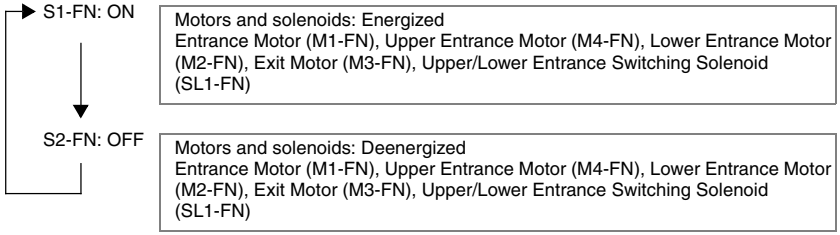
7.3.1 1st Tray Exit


S1-FN: ON
Motors and solenoids: Energized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN)
S2-FN: ON
Motors and solenoids: Deenergized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN)

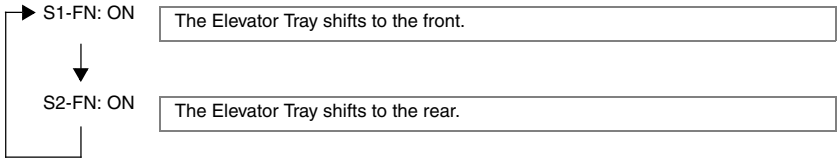
7.3.2 Elevator Tray Exit


S1-FN: ON
Motors: Energized
Entrance Motor (M1-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN)
S2-FN: OFF
Motors: Deenergized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN)

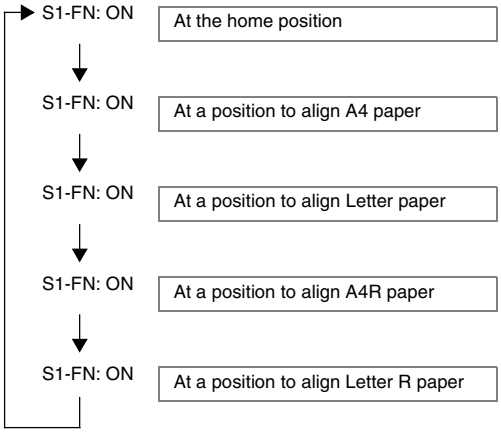
7.3.3 Finisher Tray Exit


S1-FN: ON
Motors and solenoids: Energized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN)
S2-FN: OFF
Motors and solenoids: Deenergized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN)

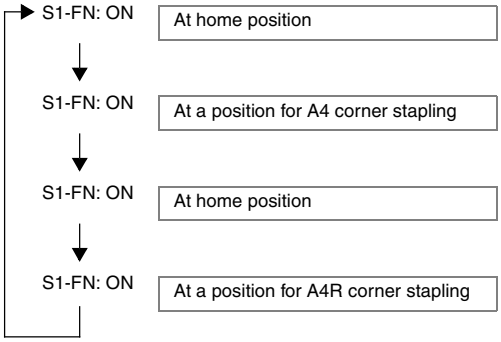
7.3.4 Shifting Operation



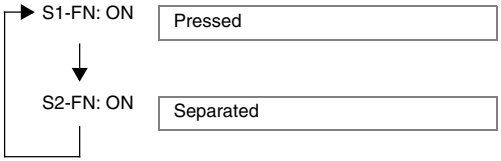
7.3.5 Aligning Plate Operation


S1-FN: ON
At the home position
S1-FN: ON
At a position to align A4 paper
S1-FN: ON
At a position to align Letter paper
S1-FN: ON
At a position to align A4R paper
S1-FN: ON
At a position to align Letter R paper

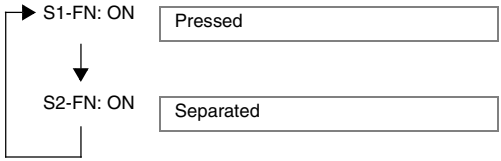
7.3.6 Stapling Unit CD Movement



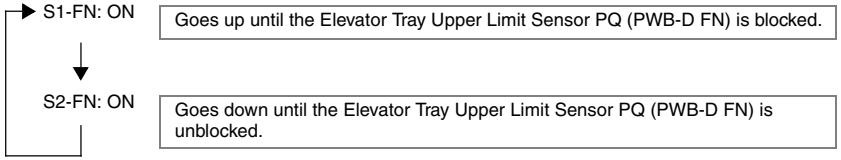
7.3.7 Exit Roller/Rolls Spacing



7.3.8 Storage Roller/Rolls Spacing



7.3.9 Elevator Tray Operation


S1-FN: ON
Goes up until the Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is blocked.
S2-FN: ON
Goes down until the Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is unblocked.

7.3.10 Sensor Test

Sensor	State	LED			
		1	2	3	4
Elevator Tray Upper Limit Sensor PQ (PWB-D FN)	Unblocked	❍	❍	❍	●
Storage Sensor (PC3-FN)	Blocked	❍	❍	●	❍
Lower Entrance Sensor(PC2-FN)	Blocked	❍	●	❍	❍
Upper Entrance Sensor(PC4-FN)	Blocked	●	❍	❍	❍

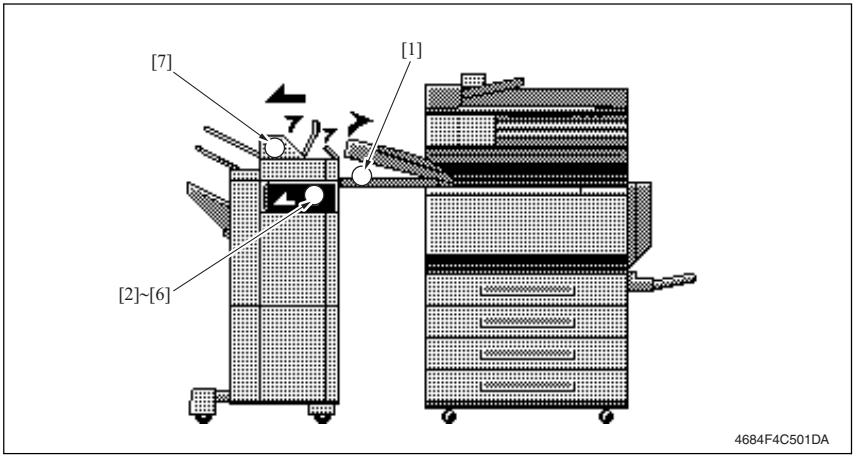
●: ON ❍: OFF

Troubleshooting

8. Jam Display

8.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

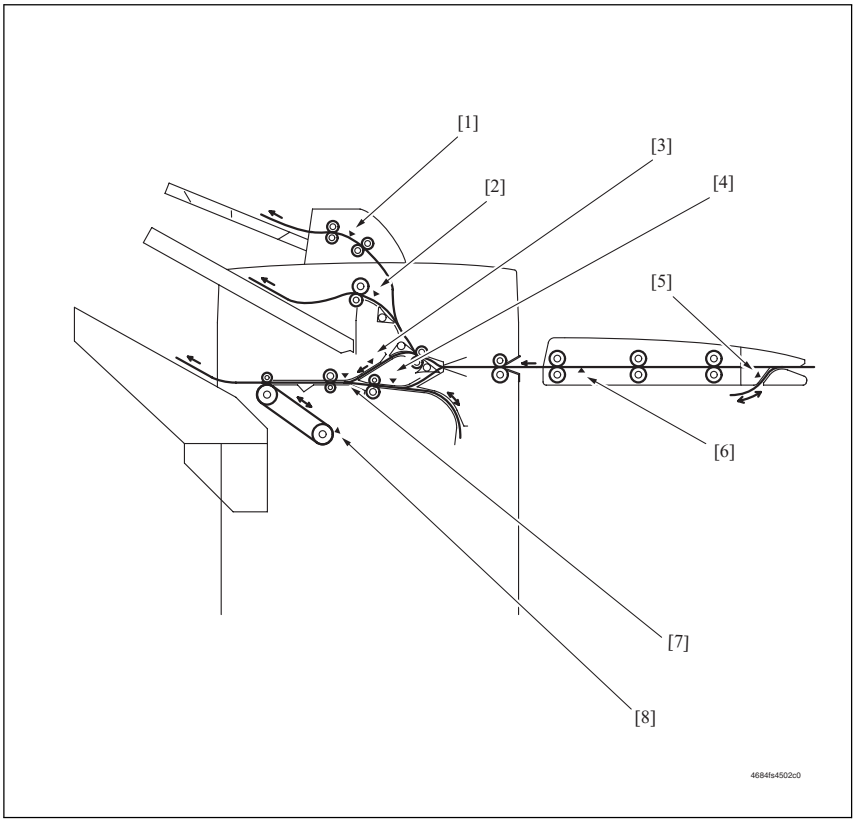


No.	Code	Misfeed location	Misfeed access location	Action
[1]	7403	Horizontal Transport section	Horizontal Transport section Cover	☞ 25
[2]	7401	Transport section	Front Door	☞ 22
[3]	7402	Tray1 Exit section	Front Door	☞ 23
[4]	7402	Elevator Tray Exit section	Front Door	☞ 24
[5]	7404	Paper Stack Exit section	Front Door	☞ 24
[6]	7405 7406	Stapler section	Front Door	☞ 25
[7]	7402	Job Tray Exit section (JS-601)	Job Tray Upper Cover	☞ 23

8.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

8.2 Sensor layout



[1]	Job Tray Exit Sensor	PC19-FN	[5]	Turnover Empty Sensor	PC6-HO
[2]	1st Tray Exit Sensor	PC1-FN	[6]	Paper Sensor	PC1-HO
[3]	Upper Entrance Sensor	PC4-FN	[7]	Storage Sensor	PC3-FN
[4]	Lower Entrance Sensor	PC2-FN	[8]	Finisher Tray Paper Sensor	PC5-FN

8.3 Solution

8.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

8.3.2 Transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The 1st Tray Exit Sensor (PC1-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Job tray Exit Sensor (PC19-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Upper Entrance Sensor (PC4-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Lower Entrance Sensor (PC2-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.

B. Action

Relevant electrical parts	
Job Tray Exit Sensor (PC19-FN) 1st Tray Exit Sensor (PC1-FN) Paper Sensor (PC1-HO) Upper Entrance Sensor (PC4-FN) Lower Entrance Sensor (PC2-FN) Storage Sensor (PC3-FN) Entrance Motor (M1-FN) Upper Entrance Motor (M4-FN) Lower Entrance Motor (M2-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC19-FN I/O, sensor check	PWB-A FN PJ14A-6 (ON)	FS-501 B-4
3	PC1-FN I/O, sensor check	PWB-A FN PJ19A-6 (ON)	FS-501 B-8
4	PC1-HO I/O, sensor check	PWB-A FN PJ15A-4 (ON)	FS-501 B-5
5	PC4-FN I/O, sensor check	PWB-A FN PJ20A-9 (ON)	FS-501 H-6
6	PC2-FN I/O, sensor check	PWB-A FN PJ19A-8 (ON)	FS-501 B-8
7	PC3-FN I/O, sensor check	PWB-A FN PJ20A-3 (ON)	FS-501 H-7
8	M1-FN operation check	PWB-A FN PJ9A-1 to 4	FS-501 B-2
9	M4-FN operation check	PWB-A FN PJ9A-5 to 8	FS-501 B-2
10	M2-FN operation check	PWB-A FN PJ9A-9 to 12	FS-501 B-2
11	PWB-A FN replacement	—	—

8.3.3 Tray1 Exit section misfeed

A. Detection timing

Type	Description
Tray1 Exit section misfeed detection	The 1st Tray Exit Sensor (PC1-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
1st Tray Exit Sensor (PC1-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC1-FN I/O, sensor check	PWB-A FN PJ19A-6 (ON)	FS-501 B-8
3	PWB-A FN replacement	—	—

8.3.4 Job Tray Exit section misfeed (JS-601)

A. Detection timing

Type	Description
Job Tray Exit section misfeed detection (JS-601)	The Job Tray Exit Sensor (PC19-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
Job Tray Exit Sensor (PC19-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC19-FN I/O, sensor check	PWB-A FN PJ14A-6 (ON)	FS-501 B-4
3	PWB-A FN replacement	—	—

8.3.5 Elevator Tray Exit section misfeed

A. Detection timing

Type	Description
Elevator Tray Exit section misfeed detection	The Storage Sensor (PC3-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
Storage Sensor (PC3-FN) Exit Motor (M3-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC3-FN I/O, sensor check	PWB-A FN PJ20A-3 (ON)	FS-501 H-7
3	M3-FN operation check	PWB-A FN PJ8A-1 to 4	FS-501 B-1
4	PWB-A FN replacement	—	—

8.3.6 Paper Stack Exit section misfeed

A. Detection timing

Type	Description
Paper Stack Exit section misfeed detection	The Finisher Tray Paper Sensor (PC5-FN) remains activated when a copy stack, which has been stapled together, is fed out.

B. Action

Relevant electrical parts	
Exit Motor (M3-FN) Finisher Tray Paper Sensor (PC5-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC5-FN I/O, sensor check	PWB-A FN PJ25A-2 (ON)	FS-501 H-3
3	M3-FN operation check	PWB-A FN PJ8A-1 to 4	FS-501 B-1
4	PWB-A FN replacement	—	—

8.3.7 Stapler section misfeed

A. Detection timing

Type	Description
Stapler section misfeed detection	The Stapler does not return to its home position within a given period of time after the forward drive of the Stapler has been started.

B. Action

Relevant electrical parts	
Staple Home Position Sensor (PC14-FN) Stapling Unit Moving Motor (M6-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC14-FN I/O, sensor check	PWB-A FN PJ22A-3 (ON)	FS-501 H-5
3	M6-FN operation check	PWB-A FN PJ10A-1 to 4	FS-501 B-3
4	Stapling Unit replacement	—	—
5	PWB-A FN replacement	—	—

8.3.8 Horizontal Transport section misfeed

A. Detection timing

Type	Description
Horizontal Transport section misfeed detection	The Paper Sensor (PC1-HO) of the Horizontal Transport Unit is not blocked even after the lapse of a given period of time after the leading edge of the paper has unblocked the Paper Exit Sensor of the main unit.
	The Paper Sensor (PC1-HO) of the Horizontal Transport Unit is not unblocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO).

B. Action

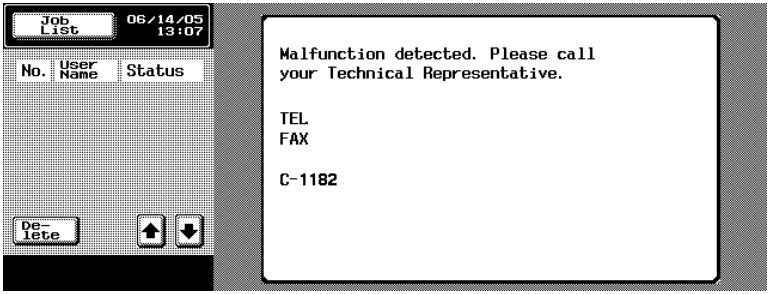
Relevant electrical parts	
Paper Sensor (PC1-HO) Turnover Empty Sensor (PC6-HO)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Horizontal Transport section gear check	—	—
3	PC1-HO I/O, sensor check	PWB-A FN PJ15A-4 (ON)	FS-501 B-5
4	PC6-HO I/O, sensor check	PWB-A FN PJ15A-12 (ON)	FS-501 B-5
5	PWB-A FN replacement	—	—

9. Trouble code

9.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4684F4E502DA

9.2 Trouble code list

Code	Item	Description
C1182	Shift Motor drive malfunctions	• The Shift Home Position Sensor (PC10-FN) does not go HIGH even after the lapse of a given period of time after M8-FN has been energized (to start returning the Elevator Tray to its home position). • The Shift Home Position Sensor (PC10-FN) does not go LOW even after the lapse of a given period of time after M8-FN has been energized (to start moving the Elevator Tray for job offset).
C1183	Elevator Motor drive malfunctions	• The Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is not activated even after the lapse of a given period of time after M7-FN has been energized (to start raising the Elevator Tray). • The Elevator Tray Upper Limit Switch (S2-FN) or Elevator Tray Lower Limit Switch (S3-FN) is actuated after M7-FN has been energized.
C1190	CD Aligning Motor drive malfunction	• The CD Aligning Home Position Sensor (PC9-FN) does not go LOW even after the lapse of a given period of time after M5-FN has been energized (to return the Aligning Plate to its home position).
C11A1	Exit Roller/Rolls Spacing Motor drive malfunction	• The Exit Roller Home Position Sensor (PC13-FN) does not go HIGH even after the lapse of a given period of time after M13-FN has been energized (to start spacing/pressure sequence).
C11A2	Storage Roller/Rolls Spacing Motor drive malfunction	• The Storage Roller Home Position Sensor (PC12-FN) does not go HIGH even after the lapse of a given period of time after M12-FN has been energized (to start spacing/pressure sequence).
C11B0	Stapling Unit Moving Motor drive malfunction	• The Staple Home Position Sensor (PC14-FN) does not go HIGH even after the lapse of a given period of time after M6-FN has been energized (to return the Stapling Unit to its home position).
C11B2	Stapling Motor drive malfunction	• Stapling Motor is not deenergized even after the lapse of a given period of time after it has been energized (to start a stapling sequence).

9.3 Solution

9.3.1 C1182: Shift Motor drive malfunctions

Relevant electrical parts	
Shift Home Position Sensor (PC10-FN) Shift Motor Pulse Sensor (PC11-FN) Shift Motor (M8-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC10-FN I/O, sensor check	PWB-A FN PJ25A-12 (ON)	FS-501 H-2
4	PC11-FN I/O, sensor check	PWB-A FN PJ25A-14 (ON)	FS-501 H-2
5	M8-FN operation check	PWB-A FN PJ5A-3 to 4	FS-501 H-7
6	PWB-A FN replacement	—	—

9.3.2 C1183: Elevator Motor drive malfunctions

Relevant electrical parts	
Elevator Tray Upper Limit Sensor PQ (PWB-D FN) Elevator Tray Upper Limit Switch (S2-FN) Elevator Tray Lower Limit Switch (S3-FN) Elevator Motor (M7-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PWB-D FN I/O, sensor check	PWB-A FN PJ21A-2, 4	FS-501 G to H-6
4	S2-FN operation check	PWB-A FN PJ4A-1	FS-501 H-8
5	S3-FN operation check	PWB-A FN PJ4A-4	FS-501 H-8
6	M7-FN operation check	PWB-A FN PJ5A-1 to 2	FS-501 H-7
7	PWB-A FN replacement	—	—

9.3.3 C1190: CD Aligning Motor drive malfunction

Relevant electrical parts	
CD Aligning Home Position Sensor (PC9-FN) CD Aligning Motor (M5-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC9-FN I/O, sensor check	PWB-A FN PJ25A-6 (ON)	FS-501 H-3
4	Turn OFF the Main Power Switch, move the Aligning Plate out of its home position, and turn ON the Main Power Switch. Operation check of the CD aligning Motor (M5-FN) at this time.	PWB-A FN PJ11A-5 to 8	FS-501 B-3
5	PWB-A FN replacement	—	—

9.3.4 C11A1: Exit Roller/Rolls Spacing Motor drive malfunction

Relevant electrical parts	
Exit Roller Home Position Sensor (PC13-FN) Exit Roller/Rolls Spacing Motor (M13-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC13-FN I/O, sensor check	PWB-A FN PJ19A-15 (ON)	FS-501 B-9
4	M13-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN PJ16A-1 to 2	FS-501 B-6
5	PWB-A FN replacement	—	—

9.3.5 C11A2: Storage Roller/Rolls Spacing Motor drive malfunction

Relevant electrical parts	
Storage Roller Home Position Sensor (PC12-FN) Storage Roller/Rolls Spacing Motor (M12-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC12-FN I/O, sensor check	PWB-A FN PJ20A-6 (ON)	FS-501 H-6
4	M12-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN PJ8A-5 to 6	FS-501 B-1
5	PWB-A FN replacement	—	—

9.3.6 C11B0: Stapling Unit Moving Motor drive malfunction

Relevant electrical parts	
Staple Home Position Sensor (PC14-FN) Stapling Unit Moving Motor (M6-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PC14-FN I/O, sensor check	PWB-A FN PJ22A-3 (ON)	FS-501 H-5
4	Turn OFF the Main Power Switch, move the Stapling Unit out of its home position, and turn ON the Main Power Switch. Operation check of the Stapling Unit Moving Motor (M6-FN) at this time.	PWB-A FN PJ10A-1 to 4	FS-501 B-3
5	PWB-A FN replacement	—	—

9.3.7 C11B2: Stapling Motor drive malfunction

Relevant electrical parts	
Stapling Motor	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the Stapling motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of Stapling motor for proper drive coupling, and correct as necessary.	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-603

2005.07

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2005/07	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

FS-603

General

1. Product specification 1

Maintenance

2. Other 5
2.1 Disassembly/Adjustment prohibited items 5
2.2 Disassembly/Assembly list (Other parts) 6
2.3 Disassembly/Assembly procedure 7
2.3.1 Exit Tray 7
2.3.2 Front Cover 7
2.3.3 Rear Cover 7
2.3.4 Upper Door 8
2.3.5 Finisher Tray Upper Cover 8
2.3.6 Upper Cover 9
2.3.7 Side Guide 9
2.3.8 Middle Transport Unit 10
2.3.9 Stapler 10
2.3.10 Saddle Section 11
2.3.11 Finisher Tray 11
2.3.12 Paddle Section 13
2.3.13 Exit Roller (Upper) 14
2.3.14 Paddle 14
2.3.15 Exit Roller (Lower) and Paper Exit Belt 15
2.3.16 Stapler/Folding Drive Unit 17
2.3.17 Transport Roller 18
2.3.18 Middle Transport Roller 19
2.3.19 Punch Unit 20
2.3.20 Finisher Control Board 21
2.3.21 Punch Control Board 21
2.3.22 Transport Motor Unit 22
2.3.23 Middle Transport Motor 22
2.3.24 Punch Motor 22
2.3.25 Side Registration Motor 22

Adjustment/Setting

3. How to use the adjustment section 23
4. Sensor check 24
4.1 Check procedure 24
4.2 Sensor check list 24
4.2.1 Sensor check screen 24
5. Mechanical adjustment 26
5.1 Adjustment of the stapling position 26
5.1.1 Adjustment procedure 26
5.2 Adjustment of the folding position 28
5.2.1 Adjustment procedure 28
5.3 Adjustment of height and inclination 30
5.4 Adjustment of the Folding Position 32
5.4.1 Adjustment procedure 32
5.5 Stapler Phase Adjustment 36
5.5.1 Adjustment procedure 36
5.6 Saddle Gear Phase Adjustment 39
5.6.1 Adjustment procedure 39
6. Board switch 40
6.1 PWB-A FN (Finisher Control Board) 40
6.1.1 Adjustment of the folding positions 41
6.1.2 Adjustment of the center stapling position 42
6.1.3 Adjustment of the Alignment Plate position 43
6.2 PWB-B PK (Punch Control Board) 45
6.2.1 Adjustment of the sensor output 46
6.2.2 Registration of the number of punch holes 46
6.2.3 Procedure after replacing the EEP-ROM (IC1002) 47
6.2.4 Punch center position adjustment 47

Troubleshooting

7. Jam Display 51
7.1 Misfeed display 51
7.1.1 Misfeed display resetting procedure 51
7.2 Sensor layout 52
7.3 Solution 53
7.3.1 Initial check items 53
7.3.2 Transport section misfeed 53
7.3.3 Horizontal Transport section misfeed 54

7.3.4 Folding position section misfeed 54
7.3.5 Stapler section misfeed 55
7.3.6 Paper Stack Exit section misfeed 55
8. Trouble code 56
8.1 Trouble code display 56
8.2 Trouble code list 56
8.3 Solution 59
8.3.1 C1180: Transport System Drive malfunctions 59
8.3.2 C1181: Paddle Motor malfunctions 59
8.3.3 C1183: Elevate Mechanism malfunctions 60
8.3.4 C1192: Front Aligning Plate Motor malfunctions 60
8.3.5 C1193: Rear Aligning Plate Motor malfunctions 61
8.3.6 C11A4: Booklet Exit Motor malfunctions 61
8.3.7 C11B1: Stapler Unit Slide Motor malfunctions 62
8.3.8 C11B4: Stapler/Folding Motor malfunctions 62
8.3.9 C11C1: Punch Control Board malfunctions 64
8.3.10 C11C2: Punch Side Registration Motor malfunctions 65
8.3.11 C11C3: Punch Motor malfunctions 65
8.3.12 C11C5: Punch Sensor malfunctions 66
8.3.13 C1401: Backup RAM malfunction 67

Blank Page

General

1. Product specification

A. Type

Type	Multi Staple Finisher with Saddle (Booklet)
Installation	Freestanding
Document Alignment	Center
Supplies	Staple Cartridge

B. Functions

Modes	Normal	Group, Sort, Group Offset, Sort Offset, Sort Staple, Center Staple & Fold
	Punch (Option)	Group Punch, Sort Punch, Group Offset Punch, Sort Offset Punch, Sort Staple Punch

C. Paper type

- Remove the finisher off the Copier for feeding the long paper.
- The maximum loading capacity shown is for when loading the single type of paper (80g/m^2)

(1) Group, Sort

<table>
<tr><th>Type</th><th>Size</th><th>Weight</th><th colspan="3">Tray Capacity *1</th><th>Exit Tray</th><th>No. of Sheets to be Stapled</th></tr>
<tr><td rowspan="2">Plain Paper</td><td rowspan="2">B5R/B5 to A3 wide
5.5 × 8.5R/
5.5 × 8.5 to
12.25 × 18</td><td>60 to 90 g/m^2
16 to 24 lb</td><td>No. of Sheet Height</td><td>A4R/
8.5 × 11R
or smaller

1000
150 mm</td><td>B4/
8.5 × 14
or larger

500
75 mm</td><td rowspan="2">1st paper exit tray</td><td rowspan="2">-</td></tr>
<tr><td>60 to 256 g/m^2
16 to 68 lb</td><td colspan="3">20 sheet</td></tr>
<tr><td>Envelop
OHP Film
Label Paper
Thick Paper</td><td colspan="6"></td></tr>
</table>

*1: Controlled by whichever reached earlier

(2) Sort offset, Sort group

<table>
<tr><th>Type</th><th>Size</th><th>Weight</th><th colspan="3">Tray Capacity</th><th>Exit Tray</th><th>No. of Sheets to be Stapled</th></tr>
<tr><td rowspan="2">Plain Paper</td><td rowspan="2">A5, B5R/B5 to A3
8.5 × 11R/
8.5 × 11 to
11 × 17</td><td rowspan="2">60 to 90 g/m^2
16 to 24 lb</td><td>No. of Sheets Height</td><td>A4R/
8.5 × 11R
or smaller

1000
150 mm</td><td>B4/
8.5 × 14
or larger

500
75 mm</td><td rowspan="2">1st paper exit tray</td><td rowspan="2">-</td></tr>
<tr><td colspan="3">Controlled by whichever reached earlier</td></tr>
</table>

(3) Sort staple

<table>
<tr><th>Type</th><th>Size</th><th>Weight</th><th colspan="4">Tray Capacity</th><th>Exit Tray</th><th>No. of Sheets to be Stapled</th></tr>
<tr><td rowspan="4">Plain Paper
Thick Paper</td><td rowspan="4">B5R/B5 to A3
8.5 × 11R/
8.5 × 11 to 11×17</td><td rowspan="4">Normal Mode
60 to 90 g/m^2
16 to 24 lb

Cover Mode
60 to 209 g/m^2
16 to 55.5 lb</td><td></td><td>A4R/
8.5 × 11R
or smaller</td><td>B4/
8.5 × 14
or larger</td><td rowspan="4">1st
paper
exit tray</td><td colspan="2">Normal Mode *1</td></tr>
<tr><td>No. of Sheets</td><td>1000</td><td>500</td><td>A4R/
8.5 × 11R
or smaller</td><td>B4/
8.5 × 14
or larger</td></tr>
<tr><td>Height</td><td>150 mm</td><td>75 mm</td><td>2 to 50</td><td>2 to 25</td></tr>
<tr><td>No. of Sets</td><td>30</td><td>30</td><td colspan="2"></td></tr>
<tr><td colspan="4">Controlled by whichever reached earlier</td><td colspan="3"></td></tr>
</table>

*1: The number of Sheets to be Stapled is limited for high-density images.
(Color Wise: 20 sheets x 20 sets)

(4) Center Staple & Fold

Type	Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain Paper	A4R, B4, A3 8.5 × 11R/ 11 × 17	60 to 90 g/m^2 16 to 24 lb	10 sets (No. of Sheets to be Stapled: 6 to 15 sheets) 20 sets (No. of Sheets to be Stapled: 2 to 5 sheets)	2nd paper exit tray	Black copy 2 to 15 sheets (Max. 60 pages) Other copy 2 to 10 sheets (Max. 40 pages)

D. Stapling

<table>
<tr><td>Staple Filling Mode</td><td colspan="2">Dedicated Staple Cartridge Mode (5000 staples)</td></tr>
<tr><td>Staple Detection</td><td colspan="2">Available (Nearly Empty: 40 remaining staples)</td></tr>
<tr><td rowspan="4">Stapling Position</td><td>Rear: Parallel 1 point</td><td rowspan="4">B5R/B5 to A3,
8.5 × 11R/8.5 × 11 to 11 × 17</td></tr>
<tr><td>Front: Parallel 1 point</td></tr>
<tr><td>Side: Parallel 2 points</td></tr>
<tr><td>Center: Parallel 2 points</td></tr>
<tr><td>Manual Staple</td><td colspan="2">None</td></tr>
<tr><td>Folding Mode</td><td colspan="2">Roller Pressure Folding</td></tr>
<tr><td>Folding Position</td><td colspan="2">Center of Paper</td></tr>
</table>

E. No. of sheets to be stapled (sort staple)

(1) A4R, 8.5 × 11R or smaller

No. of Sheets to be Stapled	No. of Sets		
	Rear: Parallel	Center: Parallel	Front: Parallel
2	100	40	40
3 to 5	80	40	40
6 to 10	60	40	40
11 to 20	30	30	30
21 to 30	30	30	30
31 to 50	30 sets or 1000 sheets		

(2) B4, 8.5 × 14 or larger

No. of Sheets to be Stapled	No. of Sets		
	Rear: Parallel	Center: Parallel	Front: Parallel
2	100	50	50
3 to 5	80	40	40
6 to 10	40	40	40
11 to 20	30 sets or 1000 sheets		
21 to 25			

F. Machine specifications

Power Requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated by Finisher)
Max. Power Consumption	65 W or less
Dimensions	601 mm (W) × 603 mm (D) × 933 mm (H) 23.75 inch (W) × 23.75 inch (D) × 36.75 inch (H)
Weight	41.6 kg (91.75 lb)

G. Operating environment

Conforms to the operating environment of the main unit.

NOTE

- **These specifications are subject to change without notice.**

Blank Page

Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTE

- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in this manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ Caution

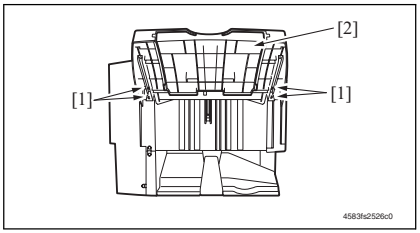
- **When removing a circuit board or other electrical component, refer to "SAFETY AND IMPORTANT WARNING ITEMS" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Exit Tray	☞ 7
2		Front Cover	☞ 7
3		Rear Cover	☞ 7
4		Upper Door	☞ 8
5		Finisher Tray Upper Cover	☞ 8
6		Upper Cover	☞ 9
7	Unit	Side Guide	☞ 9
8		Middle Transport Unit	☞ 10
9		Stapler	☞ 10
10		Saddle Section	☞ 11
11		Finisher Tray	☞ 11
12		Paddle Section	☞ 13
13		Exit Roller (Upper)	☞ 14
14		Paddle	☞ 14
15		Exit Roller (Lower) and Paper Exit Belt	☞ 15
16		Stapler/Folding Drive Unit	☞ 17
17		Transport Roller	☞ 18
18		Middle Transport Roller	☞ 19
19		Punch Unit	☞ 20
20	Electrical Parts	Finisher Control Board	☞ 21
21		Punch Control Board	☞ 21
22		Transport Motor Unit	☞ 22
23		Middle Transport Motor	☞ 22
24		Punch Motor	☞ 22
25		Side Registration Motor	☞ 22

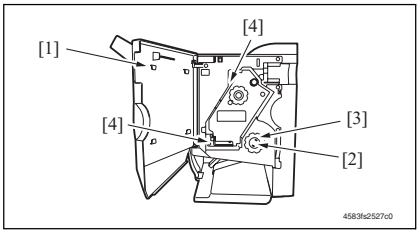
2.3 Disassembly/Assembly procedure

2.3.1 Exit Tray

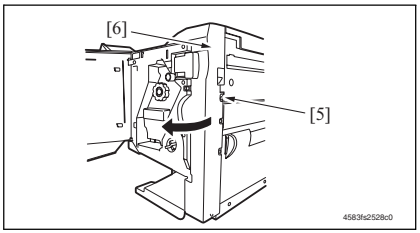


1. Remove four screws [1], and remove the Exit Tray [2].

2.3.2 Front Cover

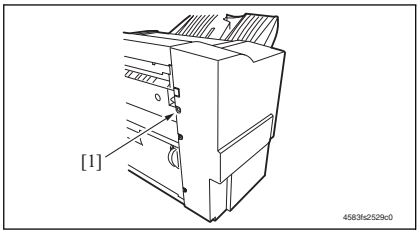


1. Remove the Middle Transport Unit.
☞ 10
2. Open the Front Door [1].
3. While pinching the claws [2], remove the Folding Jam Release Dial [3].
4. Remove two screws [4].

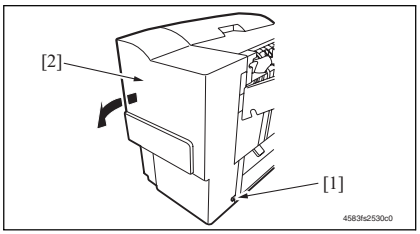


5. Remove the screw [5], and remove the Front Cover [6].

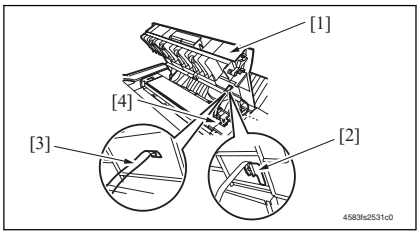
2.3.3 Rear Cover



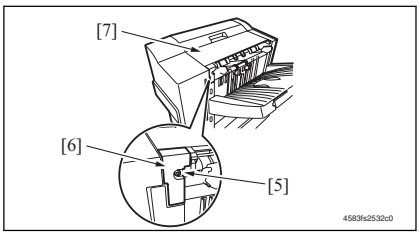
1. Remove the Middle Transport Unit.
☞ 10
2. Remove two screws [1], and remove the Rear Cover [2].



2.3.4 Upper Door

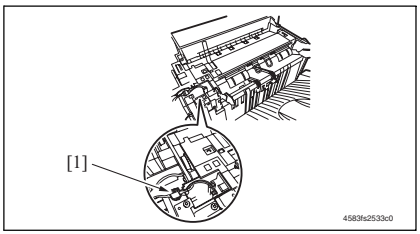


1. Open the Upper Door [1], and remove the Door Band Holder [2] by turning it clockwise.
2. Remove the Door Band [3].
3. Remove the screw [4], and remove the grounding wire.

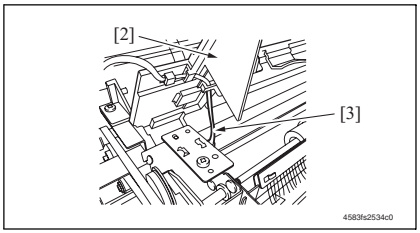


4. Remove the screw [5], remove the Finisher Tray Rear Cover [6], and remove the Upper Door [7].

2.3.5 Finisher Tray Upper Cover

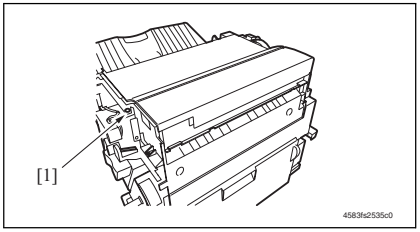


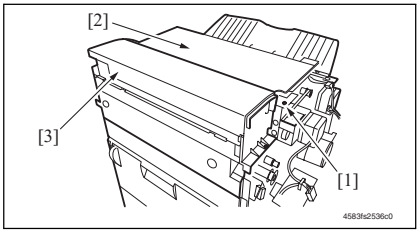
1. Remove the Front Cover.
☞ 7
2. Remove the Rear Cover.
☞ 7
3. Remove the Upper Door.
☞ 8
4. Disconnect the connector [1].



5. Disconnect the connector [3] while holding up the Finisher Tray Upper Cover [2], and remove the Finisher Tray Upper Cover [2].

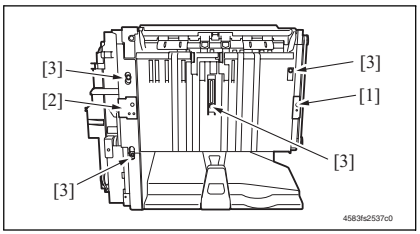
2.3.6 Upper Cover



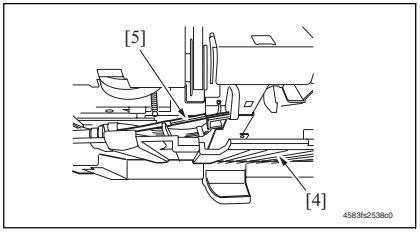


1. Remove the Front Cover.
☞ 7
2. Remove the Rear Cover.
☞ 7
3. Remove two screws [1].
4. Open the Upper Door[2],and remove the Upper Cover [3].

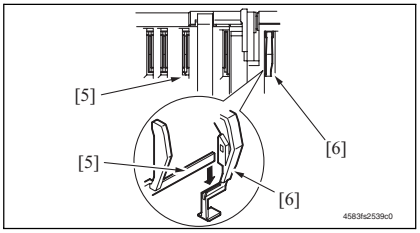
2.3.7 Side Guide



1. Remove the Exit Tray.
☞ 7
2. Remove the Front Cover.
☞ 7
3. Remove the Rear Cover.
☞ 7
4. Derail the Exit Tray Support Plate (Front) [1] and the Exit Tray Support Plate (Rear) [2] to the outside off the respective rail grooves.
5. Remove four screws [3].



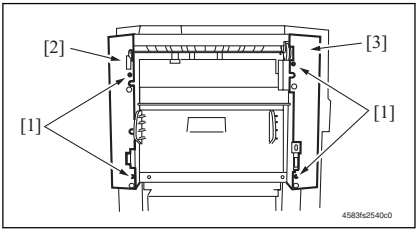
6. Pull down the Side Guide [4] lightly, disengage the Exit Tray Home Position Detecting Lever (Rear) [5], and then remove the Side Guide [4].



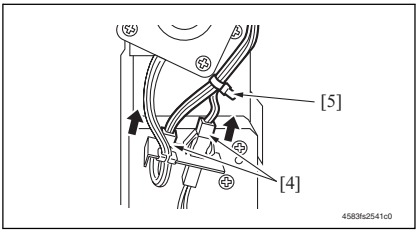
NOTE

- **In reassembling, ensure of exact installation with the Exit Tray Home Position Detecting Lever (Rear) [5] set in the slot of the Exit Tray Home Position Detecting Lever (Center) [6].**
- **After reassembly, press each of these levers for several times to make sure of exact installation.**

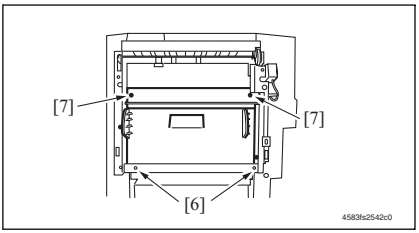
2.3.8 Middle Transport Unit



1. Remove four screws [1].
2. Hold up the Middle Front Cover [2] and the Middle Rear Cover [3], and remove them while shifting them back and forth.

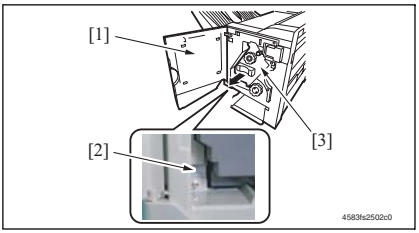


3. Disconnect two connectors [4].
4. Pinch the tie band [5], and remove it from the sheet metal.

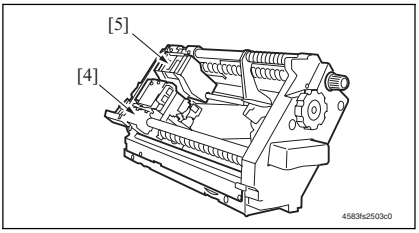


5. Remove two screws [6].
6. Loosen two screws [7].
7. Remove the Middle Transport Unit by sliding it upwards.

2.3.9 Stapler



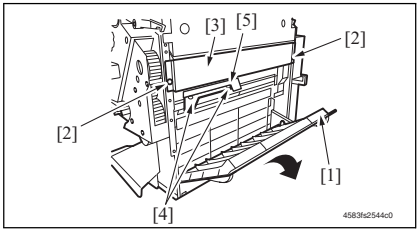
1. Open the Front Door [1].
2. Pull out the Stapler [3] while pressing the Stop Lever [2].



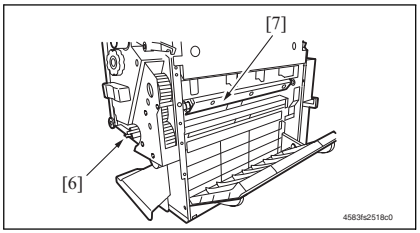
NOTE

- **Do not remove the Stapler from the shaft of the stapler frame, or displacement will be caused between the position to which the Staple Driver [4] (the lower unit of the Stapler) feeds staples and the position from which the Staple Clincher [5] (the upper unit of the Stapler) receives them.**

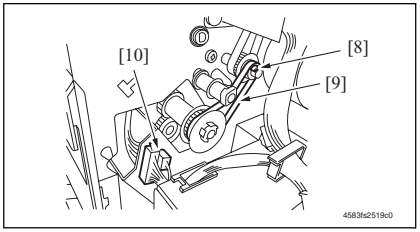
2.3.10 Saddle Section



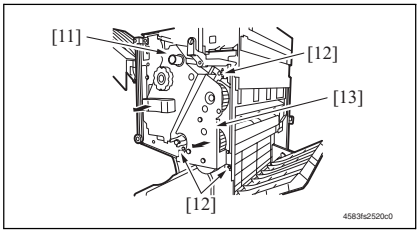
1. Remove the Front Cover.
☞ 7
2. Remove the Rear Cover.
☞ 7
3. Remove the Punch Dust Box.
4. Open the Jam Access Cover [1], remove two screws [2], and remove the Right Stay [3].
5. Remove two screws [4], and remove the Lever [5].



6. Turn the Folding Jam Release Dial [6] to move the Paper Pressure [7] inside.

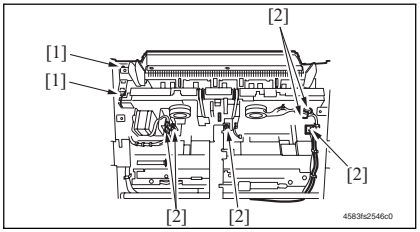


7. Remove the C-clip [8], and remove the Belt [9].
8. Disconnect two connectors [10].

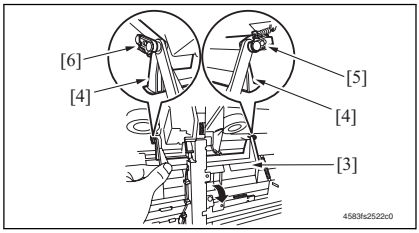


9. Remove the Stapler[11].
☞ 10
10. Remove three screws [12], and pull out and remove the Saddle [13].

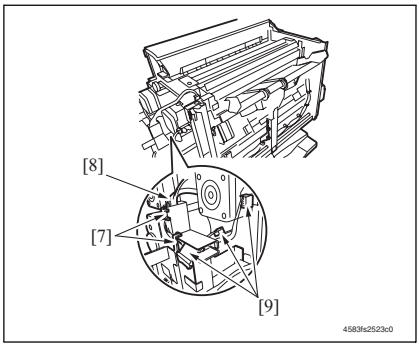
2.3.11 Finisher Tray



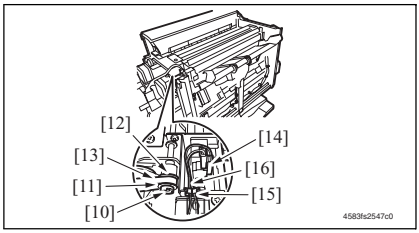
1. Remove the Finisher Tray Upper Cover.
☞ 8
2. Remove the Side Guide.
☞ 9
3. Remove two screws [1],and disconnect six connectors [2].



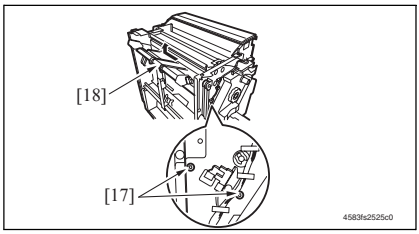
4. Pull out the Finisher Stopper Base [3], and disengage the front claw [5] and the rear claw [6] of the Finisher Stopper [4].



5. Remove the Motor Harness [8] from two Harness Saddles [7].
6. Disconnect three connectors [9].

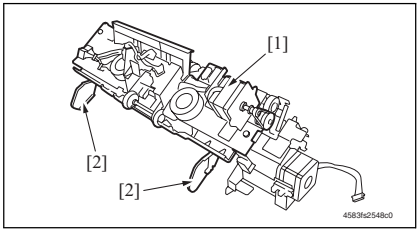


7. Remove the C-clip [10], and remove the spacer [11], and remove the Belt [13] from the Gear [12].
8. Disconnect the connector [14], and remove the Harness [16] from the Wire Saddle [15].



9. Remove two screws [17], and remove the Finisher Tray [18] by sliding it to the far side and lifting it.

2.3.12 Paddle Section



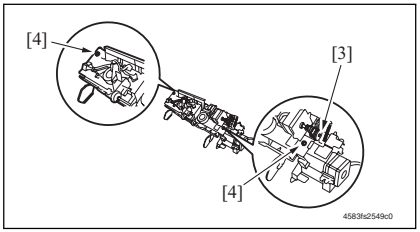
1. Remove the Finisher Tray.

☞ 11

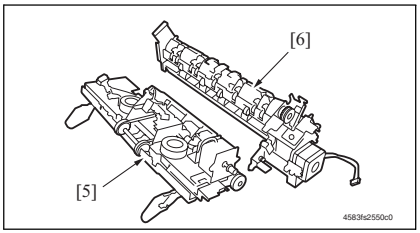
2. Place the Finisher Tray [1] as shown in the figure.

NOTE

- **Be careful not to damage the Aligning Plate [2].**

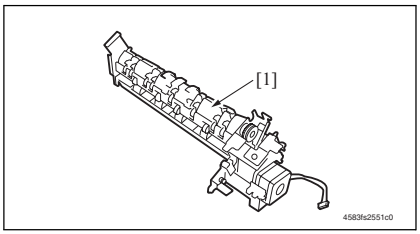


3. Remove the Belt [3], and remove two screws [4].

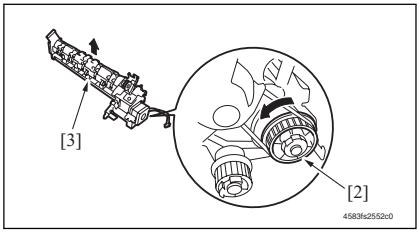


4. Separate the section into the Tray Section[5] and the Paddle Section [6].

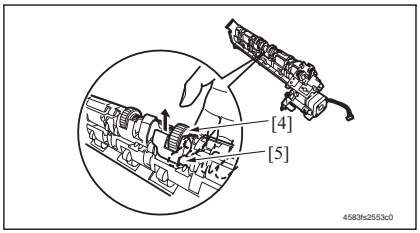
2.3.13 Exit Roller (Upper)



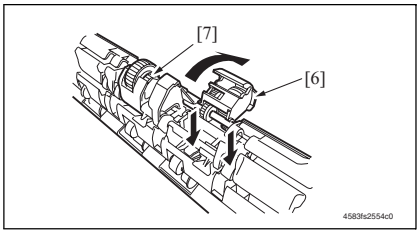
1. Remove the Paddle Section.
☞ 13
2. Place the Paddle Section [1] as shown in the figure.



3. Turn the gear [2] in the direction indicated by an arrow to move up the Exit Roller (Upper) section [3].

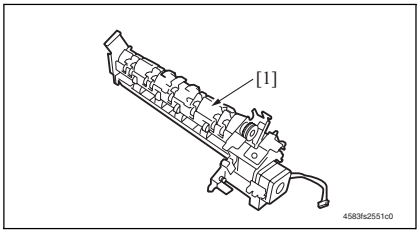


4. Push up the Exit Roller (Upper) [4] from the bottom to release it from the shaft [5].

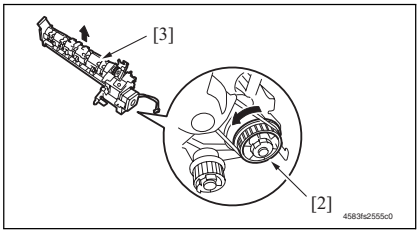


5. Turn up the Exit Roller (Upper) [6], and then push it down to remove it.
6. Remove the front Exit Roller (Upper) [7] as well in the same way.

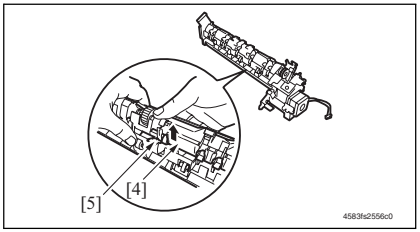
2.3.14 Paddle



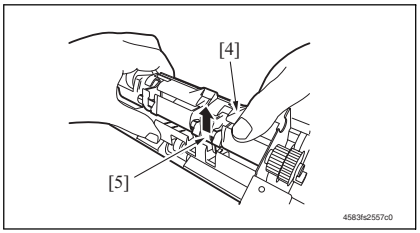
1. Remove the Paddle Section.
☞ 13
2. Place the Paddle Section [1] as shown in the figure.



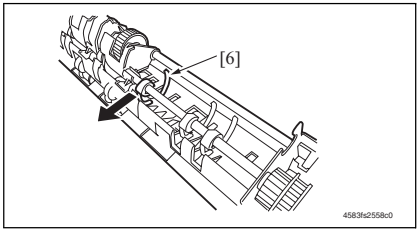
3. Turn the gear [2] in the direction indicted by an arrow to move up the Exit Roller (Upper) section [3].



4. Push up the Safety Guide [4] from the bottom to release it on one side from the shaft [5].

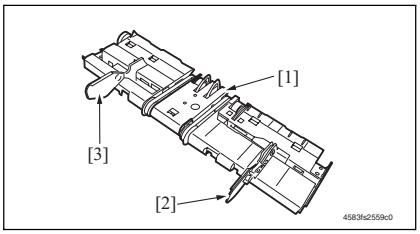


5. Push up the Safety Guide [4] from the bottom to release it from the shaft [5] and remove it.

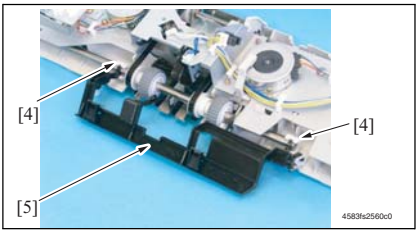


6. Remove the Paddle [6].
7. Remove the other Paddles as well in the same way.

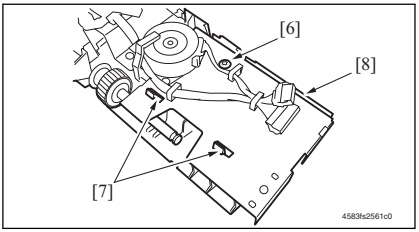
2.3.15 Exit Roller (Lower) and Paper Exit Belt



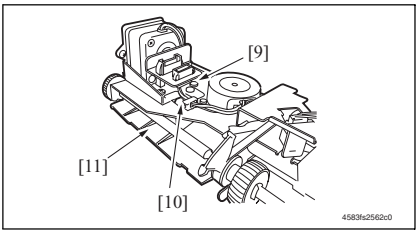
1. Remove the Tray Section.
☞ 13
2. Slide the Aligning Plate (Front) [2] and the Aligning Plate (Rear) [3] outside to remove them from the Tray [1].



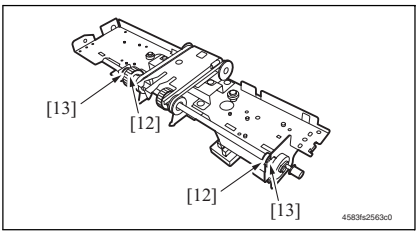
3. Remove two Holders [4], and remove the Finisher Tray Stopper [5].



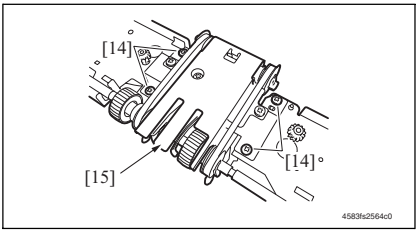
4. Remove the screw [6], and remove the Paper Guide (Front) [8] while disengaging two claws [7].



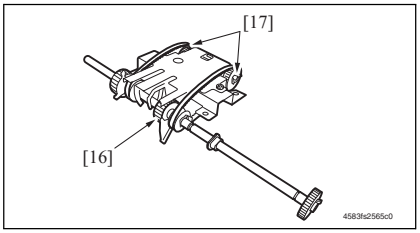
5. Remove the screw [9], and remove the Paper Guide (Rear) [11] while disengaging the claw [10].



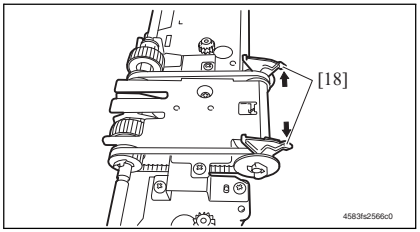
6. Remove two C-clips [12], and move two bushings [13] inside, respectively.



7. Remove four screws [14], and remove the Exit Roller (Lower) section [15] by lifting it.



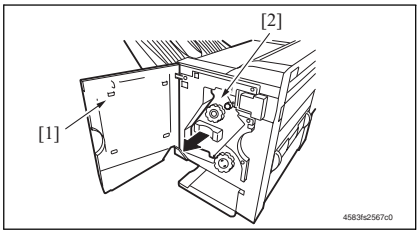
8. Remove the Exit Roller (Lower) [16] and two Paper Exit Belts [17].



NOTE

- **When installing, align the edge of claws of the Paper Exit Belt [18].**

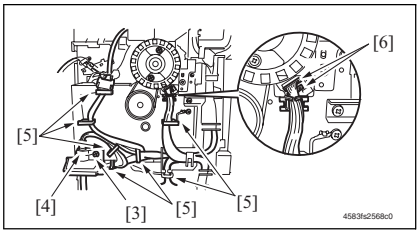
2.3.16 Stapler/Folding Drive Unit



1. Remove the Rear Cover.

☞ 7

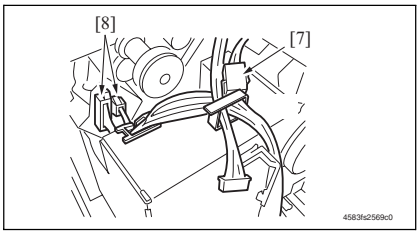
2. Open the Front Door [1], and slightly pull out the stapler section [2].



3. Remove screw [3], and remove the interface cable presser [4].

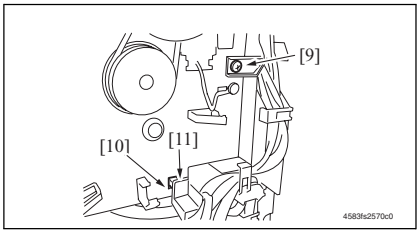
4. Remove the Harness from seven Harness Saddles[5].

5. Remove the Harness from the Wire Saddle, and disconnect two connectors [6].

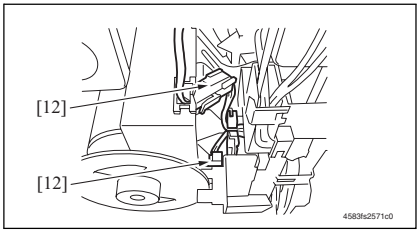


6. Remove the Harness from the Harness Saddle, and disconnect the connector [7].

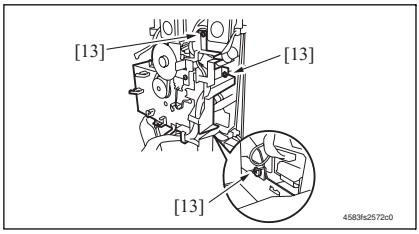
7. Remove the Harness from the Wire Saddle, and disconnect two connectors [8].



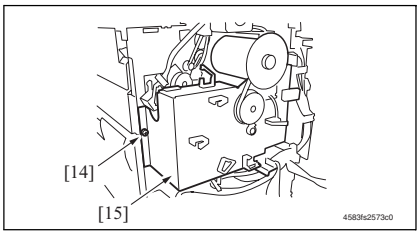
8. Remove the screw [9], and remove the claw of Harness Guide [11] from the square hole [10] in the base plate.



9. Disconnect two connectors [12], and remove the Harness from the Wire Saddle.

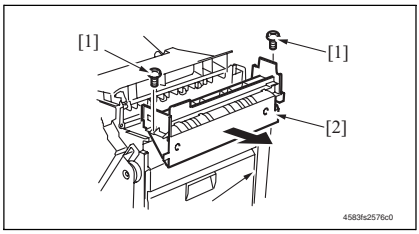


10. Remove three screws [13].



11. Remove the screw [14], and remove the Stapler/Folding Drive Unit [15].

2.3.17 Transport Roller



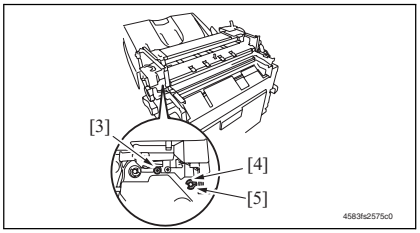
1. Remove the Upper Door.

☞ 8

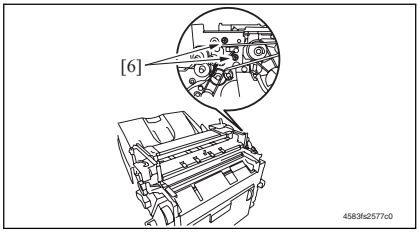
2. Remove the Upper Cover.

☞ 9

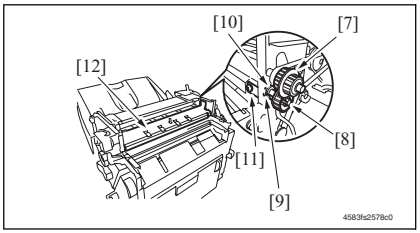
3. Remove two screws [1], and remove the Upper Cover Unit [2].



4. Remove the Transport Motor Unit.
☞ 22
5. Remove the screw [3].
6. Remove the C-clip [4], and remove the bushing [5].



7. Remove two screws [6].

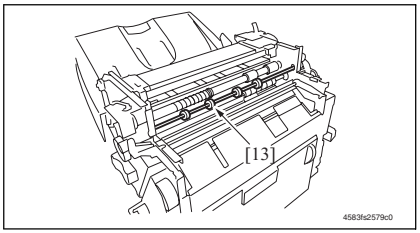


8. Remove the gear 1 [7], and remove the gear 2 [8] while disengaging the claw.

NOTE

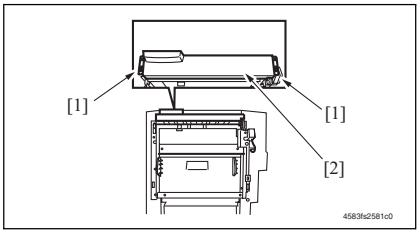
- **Be careful not to lose the gear pin.**

9. Remove the C-clip [9], and remove the bushing [10].
10. Remove the screw [11], and remove the Paper Guide (Lower) [12].

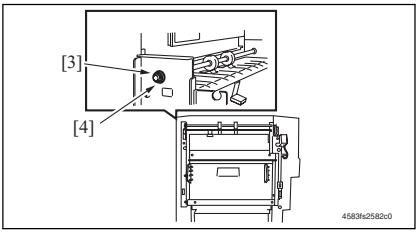


11. Remove the Transport Roller [13].

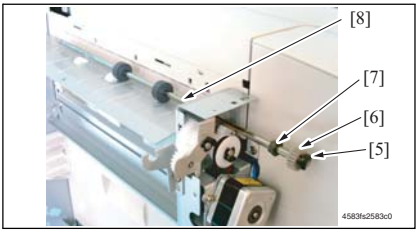
2.3.18 Middle Transport Roller



1. Remove the Middle Front Cover and the Middle Rear Cover.
☞ 10
2. Remove Two screws [1], and remove the Middle Upper Cover[2].

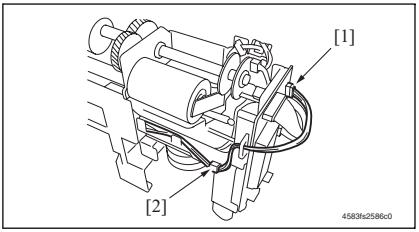


3. Remove the C-clip[3], and remove the bushing [4].

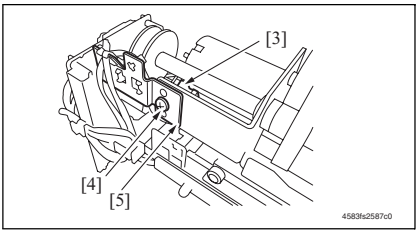


4. Shift the Shaft Assy in the orientation as shown on the left.
5. Remove the C-clip [5], the Gear [6], the bushing [7], and remove the Middle Transport Roller [8].

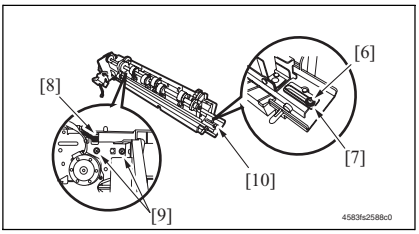
2.3.19 Punch Unit



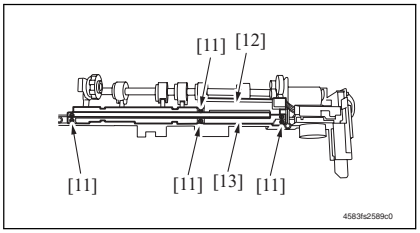
1. Remove the Punch Trash Box.
2. Disconnect the connector J1005 [1].
3. Remove the Harness from the Harness Guide [2].



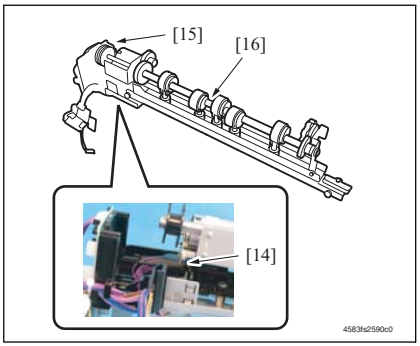
4. Disconnect the connector [3].
5. Remove the screw [4], and remove the Sensor Support Plate [5].



6. Remove the screw [6] and the washer [7].
7. Disconnect the connector [8].
8. Remove two screws [9], and remove the base cover [10].

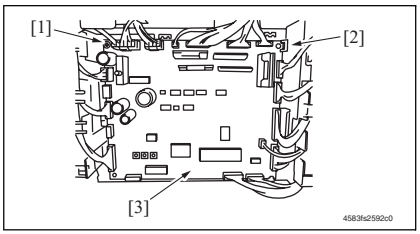


9. Remove four screws [11], and remove the Sensor Unit (Upper) [12] and the Sensor Unit (Lower) [13].



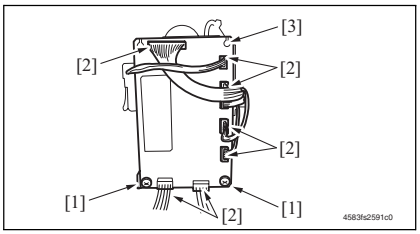
10. Remove the spring[14].
11. Remove the Punch Unit [16] from the Side Registration Motor section [15].

2.3.20 Finisher Control Board



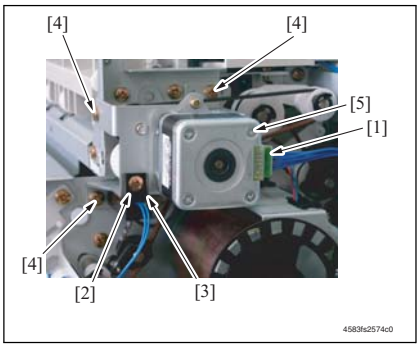
1. Remove the Rear Cover.
☞ 7
2. Disconnect all connectors on the Board, and remove the screw [1].
3. Release the PCB support [2], and remove the Finisher Control Board [3].

2.3.21 Punch Control Board



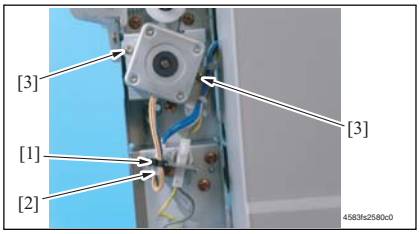
1. Remove two screws [1].
2. Disconnect seven connectors [2], and remove the Punch Control Board [3].

2.3.22 Transport Motor Unit



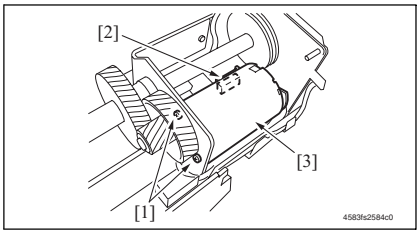
1. Remove the Rear Cover.
☞ 7
2. Disconnect the connector [1].
3. Remove screw [2], and remove the Harness Guide [3].
4. Remove three screws [4], and remove the Transport Motor Unit [5].

2.3.23 Middle Transport Motor



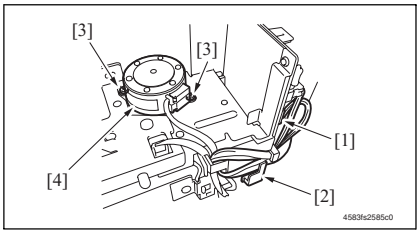
1. Remove the Middle Rear Cover.
☞ 10
2. Remove the harness from the Wire Saddle [1].
3. Disconnect the connector [2].
4. Remove two screws [3].

2.3.24 Punch Motor



1. Remove the Upper Cover.
☞ 9
2. Remove two screws [1].
3. Disconnect the connector [2], and remove the punch motor [3].

2.3.25 Side Registration Motor



1. Disconnect the connector J1001 [1].
2. Remove the harness from the Harness Guide [2].
3. Remove two screws [3], and remove the Side Registration Motor [4].

Adjustment/Setting

3. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance Checks

Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The Original Glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ Caution

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.**
- **Special care should be used when handling the Fusing Unit which can be extremely hot.**
- **The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC Drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

4. Sensor check

4.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

<Procedure>

1. Call the Service Mode to the screen.

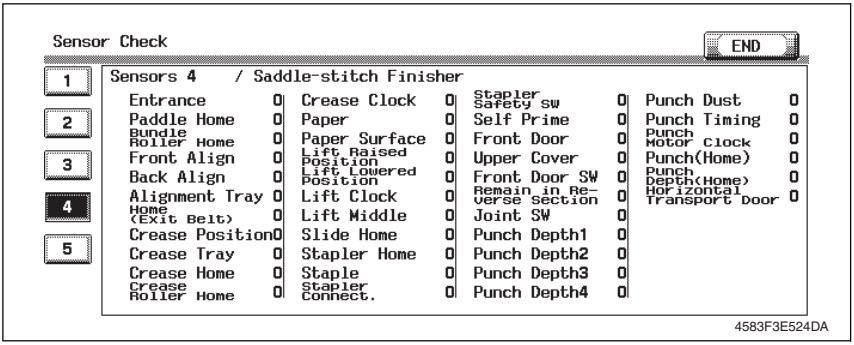
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

2. Touch the [State Confirmation] key.
3. Touch the [Sensor Check] key.

4.2 Sensor check list

4.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



4583F3E524DA

A. Sensor monitor 4 (FS-603, PK-501)

Symbol	Panel display	Part/Signal name	Operation characteristics/ Panel display	
			1	0
PI1-FN	Entrance	Entrance Sensor	Paper present	Paper not present
PI2-FN	Paddle Home	Paddle Home Position Sensor	HP	
PI3-FN	Bundle Roller Home	Swing Guide Home Position Sensor	HP	
PI4-FN	Front Align	Front Aligning Plate Home Position Sensor	HP	
PI5-FN	Back Align	Rear Aligning Plate Home Position Sensor	HP	
PI6-FN	Alignment Tray	Finisher Tray Sensor	Paper present	Paper not present
PI7-FN	Home (Exit Belt)	Exit Belt Home Position Sensor	HP	
PI10-FN	Crease Position	Folding Position Sensor	Paper present	Paper not present

Symbol	Panel display	Part/Signal name	Operation characteristics/ Panel display	
			1	0
PI13-FN	Crease Tray	Saddle Tray Sensor	Paper present	Paper not present
PI11-FN	Crease Home	Folding Home Position Sensor	HP	
PI12-FN	Crease Roller Home	Folding Roller Home Position Sensor	HP	
PI14-FN	Crease Clock	Staple/Folding Motor Clock Sensor		
PI8-FN	Paper	Exit Tray Sensor	Paper present	Paper not present
PI9-FN	Paper Surface	Exit Tray Home Position Sensor	DETECTED	
PI15-FN	Lift Raised Position	Shift Upper Limit Sensor	UPPER LIMIT	
PI16-FN	Lift Lowered Position	Shift Lower Limit Sensor	LOWER LIMIT	
PI17-FN	Lift Clock	Shift Motor Clock Sensor		
	Lift Middle		FULL	
PI18-FN	Slide Home	Slide Home Position Sensor		HP
PI19-FN	Stapler Home	Staple Drive Home Position Sensor	HP	
PI20-FN	Staple	Staple Detecting Sensor	SUPPLIED	EMPTY
	Stapler Connect.			DETECTED
MS3-FN MS4-FN	Stapler Safety SW	Staple Safety Switch (Rear) Staple Safety Switch (Front)	OPEN	CLOSE
PI21-FN	Self Prime	Self-Priming Sensor		READY
PI22-FN	Front Door	Front Door Open Sensor	CLOSE	OPEN
PI23-FN	Upper Cover	Upper Cover Open Sensor	CLOSE	OPEN
MS1-FN	Front Door SW	Front Door Open Switch	CLOSE	OPEN
	Remain in Reverse Section			HORIZON-TAL
MS2-FN	Joint SW	Joint Open Switch	CLOSE	OPEN
	Punch Depth 1			
	Punch Depth 2			
	Punch Depth 3			
	Punch Depth 4			
	Punch Dust		FULL	
	Punch Timing			
PI3P-PK	Punch Motor Clock	Punch Motor Clock Sensor	Blocked	Unblocked
PI1P-PK	Punch (Home)	Punch Home Position Sensor	HP	
PI2P-PK	Punch Depth (Home)	Side Registration Home Sensor	HP	
PC4-HO	Horizontal Transport Door	Horizontal Unit Door Sensor	Blocked	Unblocked

5. Mechanical adjustment

5.1 Adjustment of the stapling position

- The stapling position is adjusted by aligning the stapling position to the folding position.
- This adjustment is made in the Service Mode of the main unit. Since the adjustment is made in increments of 1 mm, this adjustment is useful for eliminating a displacement of 1mm or more.
- For the effective adjustment of a minimal displacement smaller than 1 mm, refer to "6. Board switch."

☞ 40

Adjustable range: - 7 to + 7 mm (Increment: 1 mm)

5.1.1 Adjustment procedure

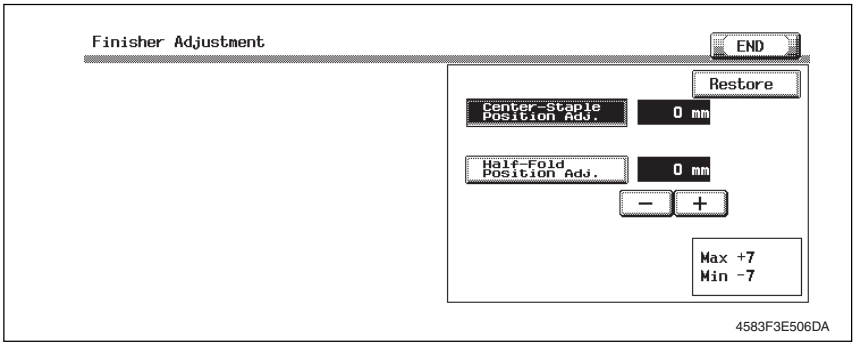
1. Set A3 or 11 x 17 to the Feed Tray.
2. Touch these keys in this order: [Fold & Staple] → [OK].
3. Set five sheets of A3 or 11 x 17 original (blank paper acceptable) in the Original Tray.

- These five sheets are used for adjustment to minimize variation.

4. Press the Start Key.
5. Set the mode to the Service Mode.

☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

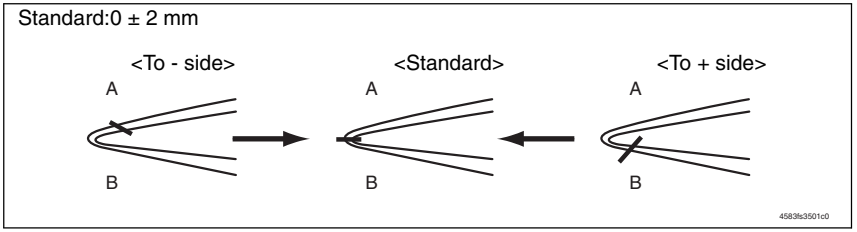
6. Touch [Finisher].
7. Touch [Center-Staple Position Adj.].

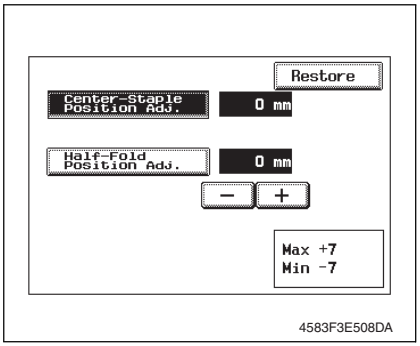


8. Renew the center folding of the finished copies.
   Take the top surface of the finished copies as A, and the under surface as B.
9. Check the deviation of the stapling position from the newly folded position.

NOTE

- **In checking the deviation, refer not to the folded position by the Finisher but to the newly folded position.**





10. Press the Clear Key.

11. Adjust with the [+]/[-] Keys.
When the stapling position is shifted to the direction A: Adjust the value to the - side.
When the stapling position is shifted to the direction B: Adjust the value to the + side.

12. Touch [END].

13. Make the copy and check again.

5.2 Adjustment of the folding position

- The folding position is adjusted by aligning the folding position to the stapling position.
- This adjustment is made in the Service Mode of the main unit. Since the adjustment is made in increments of 1 mm, this adjustment is useful for eliminating a displacement of 1 mm or more.
- For the effective adjustment of a minimal displacement smaller than 1 mm, refer to 6. Board switch.

☞ 40

Adjustment range: - 7 to + 7 mm (Increment: 1 mm)

5.2.1 Adjustment procedure

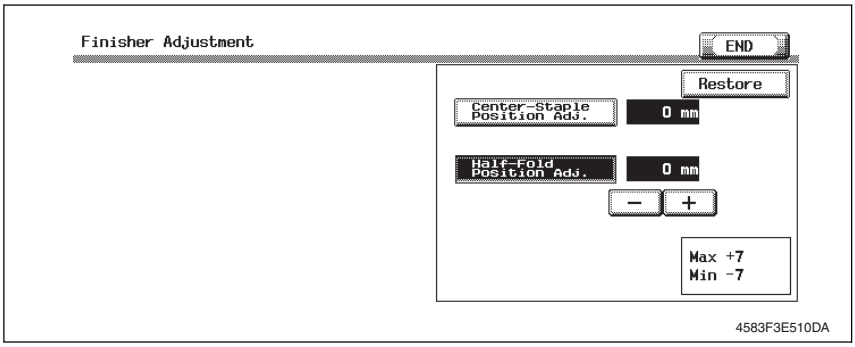
1. Set A3 or 11 x 17 to the Feed Tray.
2. Touch these keys in this order: [Fold & Staple] → [OK].
3. Set five sheets of A3 or 11 x 17 original (blank paper acceptable) in the Original Tray.

- These five sheets are used for adjustment to minimize variation.

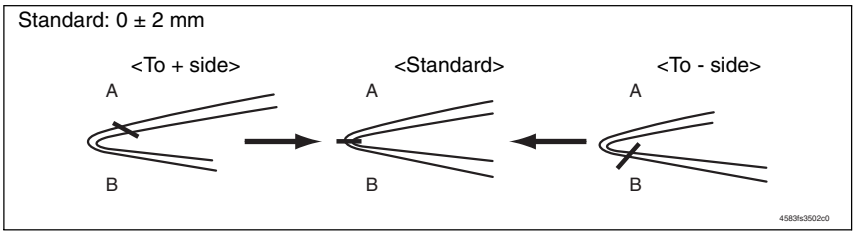
4. Press the Start Key.
5. Set the mode to the Service Mode.

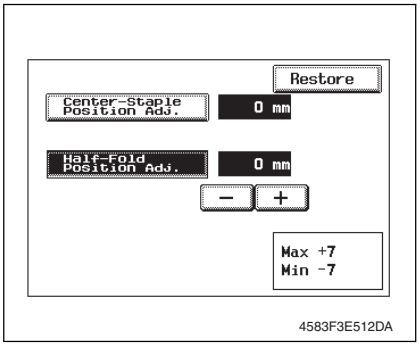
☞ For details of how to display the Service Mode screen, see the Adjustment/Setting of the main unit service manual.

6. Touch [Finisher].
7. Touch [Half-Fold Position Adj.].



8. Check the finished copies for deviation of the stapling position of from the newly folded position.
   Take the top surface of the finished copies as A, and the under surface as B.





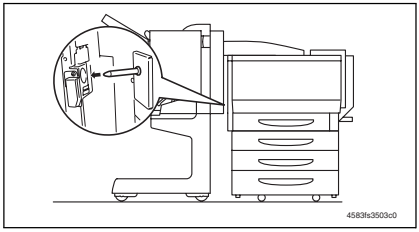
12. Make the copy and check again.

9. Press the Clear Key.

10. Adjust with the [+]/[-] Keys.
When the stapling position is shifted to the direction A: Adjust the value to the + side.When the stapling position is shifted to the direction B: Adjust the value to the - side.

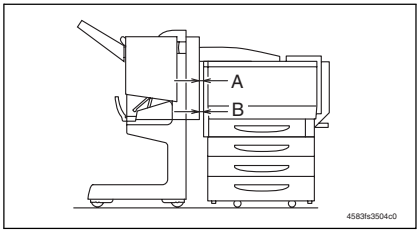
11. Touch [END].

5.3 Adjustment of height and inclination

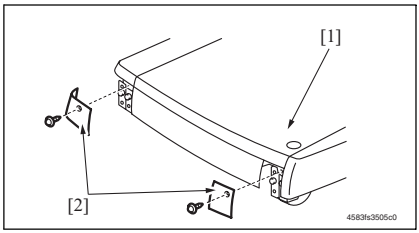


1. Gently move the finisher toward the machine and check for following.

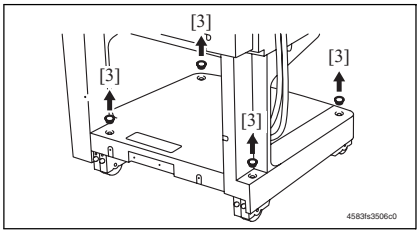
- Is the positioning pin aligned with the hole in the finisher?



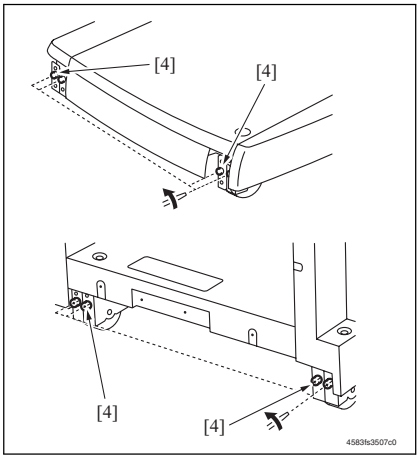
- Does the horizontal transport unit run excessively slantwise?
- Does the clearance at A equal that at B?
- If the finisher is not at the same height as the machine, adjust the machine as follows.



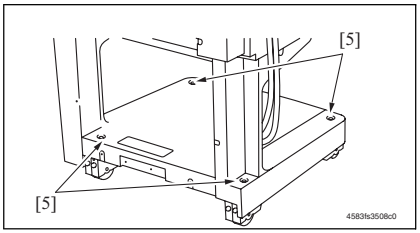
2. Remove the Finisher [1] from the main unit, and remove two caster covers [2].



3. Remove four adjusting screw covers [3].



4. Loosen two caster fixing screws [4]. (4 points)



5. Turn the adjustment screw [5] to make adjustment.

- To heighten: Turn the screw counter-clockwise.
- To bring down: Turn the screw clock-wise.

6. Fasten the caster fixing screws.

7. Install the caster covers and the adjustment screw covers.

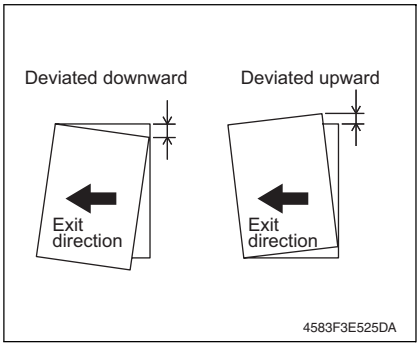
5.4 Adjustment of the Folding Position

- Folding position is adjusted by adjusting the Tray Section and the Saddle Section.
- Adjust the folding position by aligning the Tray Section. Adjust the position of the Saddle Section if the position is still not proper.

<Deviation amount which will be adjusted>

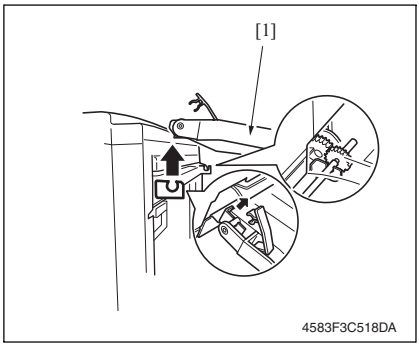
Paper Size	Amount of deviation which will be adjusted by aligning the Tray Section	Amount of deviation which will be adjusted by aligning the Saddle Section position	Total amount which will be adjusted
A3	0.55 mm	0.55 mm	1.1 mm
A4	0.4 mm	0.4 mm	0.8 mm
B4	0.5 mm	0.5 mm	1.0 mm
Ledger	0.55 mm	0.55 mm	1.1 mm
Letter	0.35 mm	0.35 mm	0.7 mm

5.4.1 Adjustment procedure



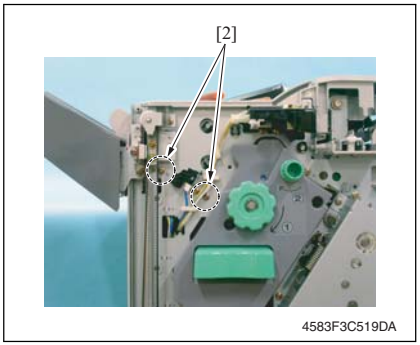
A. Checking the deviation amount

1. Load the Paper Take-up Tray with A3 paper.
2. Select [Fold & Staple] and touch [OK].
3. Place the A3 Original (Blank paper acceptable) to the original tray, and press the Start key.
4. Check the fed out copy to see if there is any deviation.

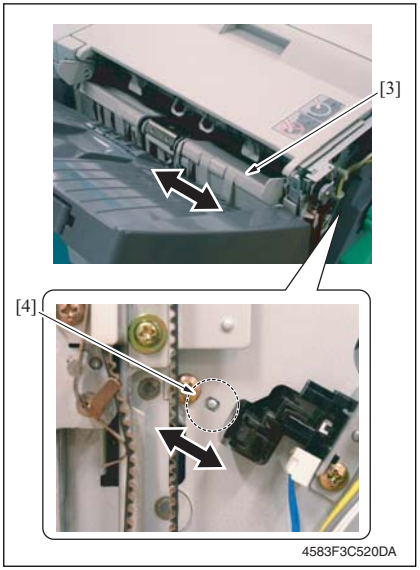


B. Adjusting the folding deviation

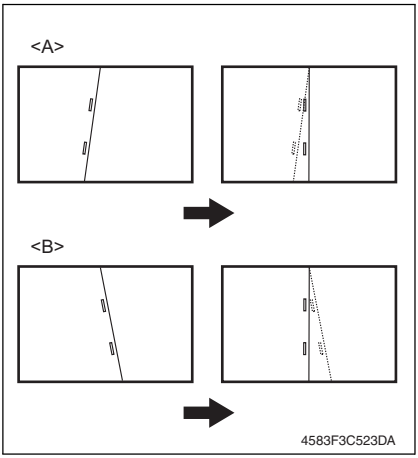
1. Turn main power switch OFF, and remove the Finisher from the machine.
2. Remove the cable, and remove the Horizontal Unit [1].



3. Remove the Middle Transport Unit.
☞ 10
4. Remove the front cover.
☞ 7
5. Loosen two screws [2] on the Tray Section.



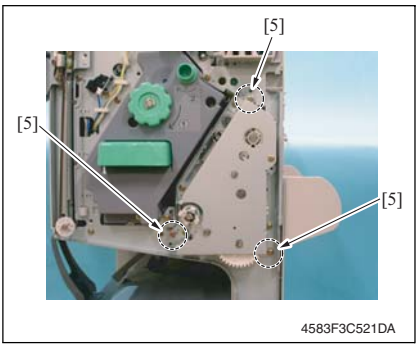
6. Move the Tray Section [3] back and forth, and move the positioning dowels [4] right and left to adjust.



- If it is deviated downward <A>, move the positioning dowels to the left.
- If it is deviated upward <B>, move the positioning dowels to the right.

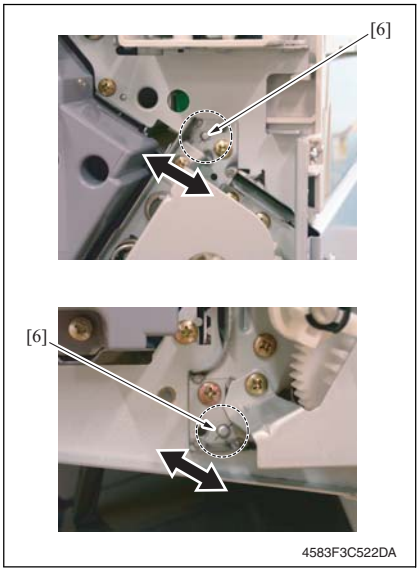
NOTE

- **The folding line will move along with the staples.**

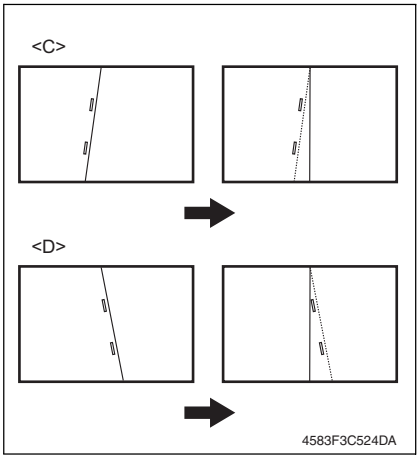


7. Carry out the test copy to see if there is any folding deviation.
If the deviation is not adjusted, repeat the procedure from Step 8 to adjust the Saddle Section position.

8. Loosen three set screws [5] on the Saddle Section.



9. Move the two positioning dowels [6] to adjust.



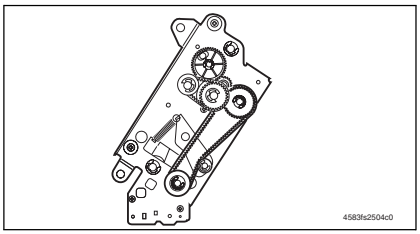
- If it is deviated downward <C>, move the positioning dowel to the left.
- If it is deviated upward <D>, move the positioning dowel to the right.

NOTE

- **Only the folding line will move.**

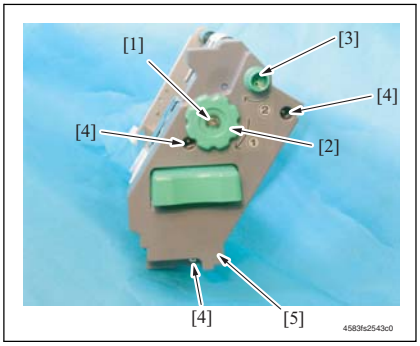
10. Feed out the test copy and check if there is any folding deviation.

5.5 Stapler Phase Adjustment



- Make phase adjustment of the Stapler following the procedures given below whenever the Gear or Timing Belt in front of the Stapler has been replaced or removed for some reason, since such replacement or removal will cause mistiming between the staple driving by the Staple Driver (the lower unit of the Stapler) and the staple clinching by the Staple Clincher (the upper unit of the Stapler).

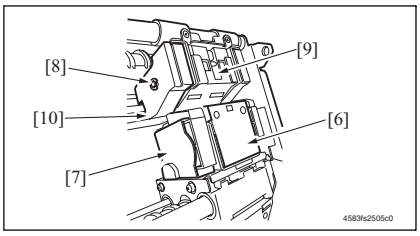
5.5.1 Adjustment procedure



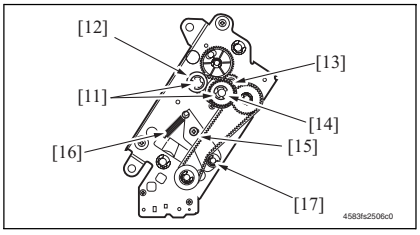
1. Remove the Stapler.

☞ 10

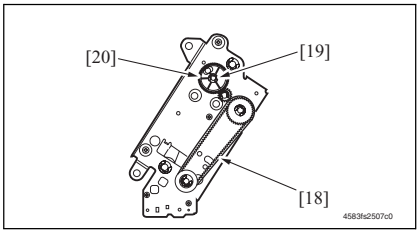
2. Remove the E-Ring [1], and remove the Jam Release Dial 1[2].
3. Remove the Jam Release Dial 2 [3].
4. Remove the three screws [4], and remove the Stapler Front Cover [5].



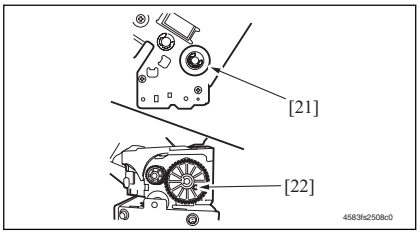
5. Remove the Gear Cover [7] from the Staple Driver [6].
6. Remove the E-Ring [8], and remove the Side Cover [10] from the Staple Clincher [9].



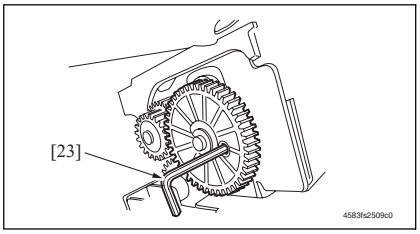
7. Remove two E-Rings [11], and remove the Staple Jam Release Gear [12], the Timing Belt [13] and the Middle Gear 1 [14].
8. Remove the spacer and the spring located behind the Staple Jam Release Gear.
9. Remove the screw [15] and the spring [16], and remove the Belt Tension Roller [17].



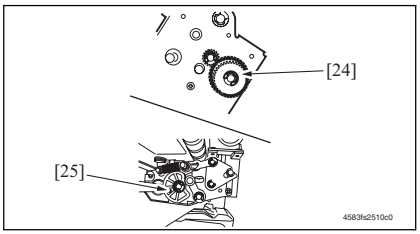
10. Remove the Timing Belt [18].
11. Remove the E-Ring [19], and remove the Staple Position Confirm Gear [20].



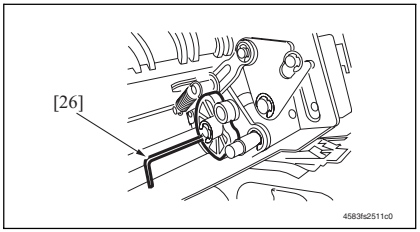
12. Turn the Gear [21] to position the hole [22] in the Gear of the Staple Driver to the hole behind.



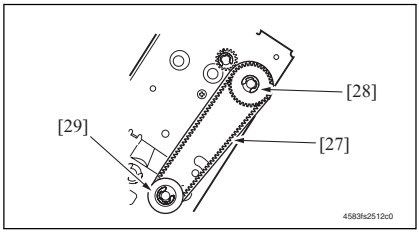
13. Insert a pin of approx. ϕ2 [23] (alternatively, 2 mm hexagonal wrench or the like can be preferably used) into the hole, and fix the Gear.



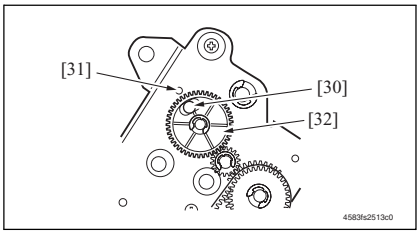
14. Turn the Gear [24] to position the hole [25] in the Cam of the Staple Clincher to the hole behind.



15. Insert a pin of approx.ϕ2 [26] (alternatively, 2 mm hexagonal wrench or the like can be preferably used) into the hole, and fix the Cam.



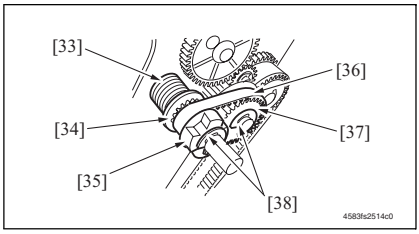
16. Set the Timing Belt [27] to the Gear [28] and Gear [29] with the Gear and the Cam in the fixed condition.



17. Install the Staple Position Confirm Gear [32] in such a way that the blue mark [30] of the Gear comes face to face with the hole [31] in the frame.

NOTE

- **The position in which the blue mark meets face to face with the hole is the home position for stapling. If the Staple Jam Release Gear is turned for some reason, this home position will shift and the Staple Cartridge will not come off. In this case, the Staple Position Confirm Gear plays a role of resuming the stapling home position by referring to the blue mark. Therefore, the Gear should be set in place correctly.**



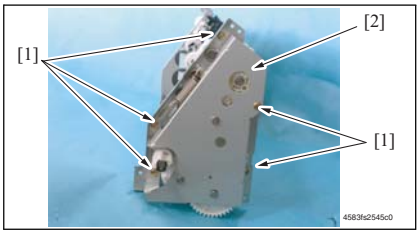
18. Remove the pin fixing the Gear and the Cam to release them.

19. Set the spring [33], the spacer [34], the Staple Jam Release Gear [35], the Timing Belt [36] and the Middle Gear 1 [37], and fix them with two E-Rings [38].

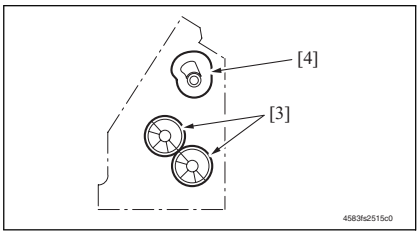
5.6 Saddle Gear Phase Adjustment

- Whenever the Gear in front of the Saddle or the Folding Roller has been replaced or removed for some reason, make gear phase adjustment following the procedures given below.

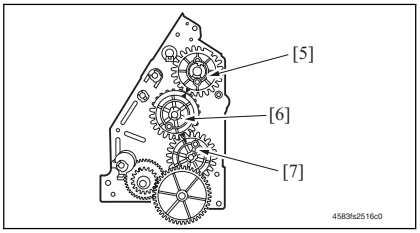
5.6.1 Adjustment procedure



1. Remove the Saddle.
☞ 11
2. Remove five screws [1], and remove the Saddle Gear Cover [2].



3. Set the Folding Roller [3] and Saddle Cam [4] within the Saddle as shown in the figure.
4. With the Folding Roller and the Saddle Cam positioned as shown in the Left figure, set the gears as shown in the figure in the following way.



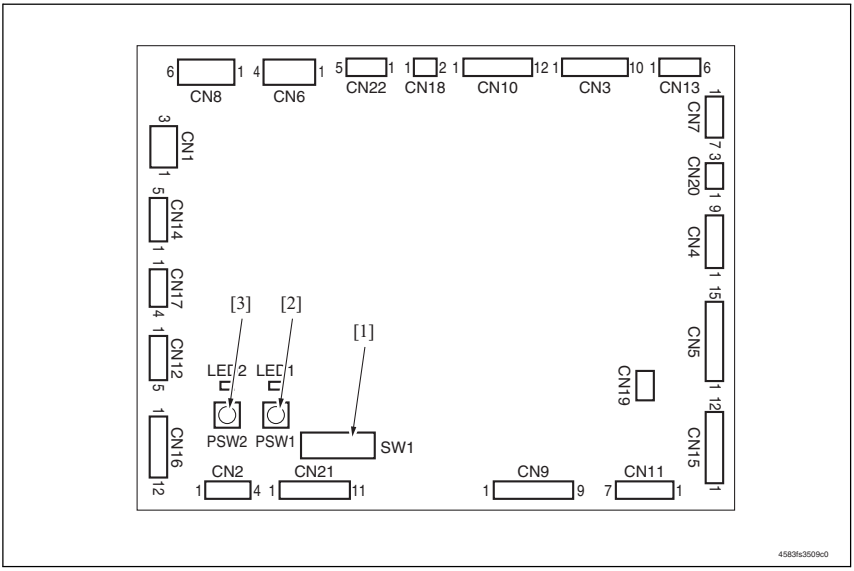
NOTE

- **The mark on the Saddle Cam Drive Gear [5] (either of the two marks) comes face to face with the mark on the Middle Gear [6] (the mark on the semi spherical part with narrow gear face width).**

5. With the Saddle Cam Drive Gear [5] and the Middle Gear [6] positioned as above, the mark on the Middle Gear [6] (the mark on the other semi spherical part) meets face to face with the rib of the Folding Roller Drive Gear [7].

6. Board switch

6.1 PWB-A FN (Finisher Control Board)



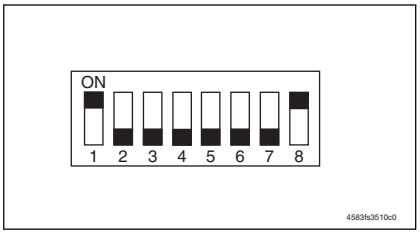
	Symbol	Description
[1]	SW1	Used to adjust the folding position, adjust the center 2-point stapling position and adjust the alignment plate position.
[2]	PSW1	Used to adjust the folding position, adjust the center 2-point stapling position and adjust the alignment plate position.
[3]	PSW2	Used to adjust the folding position, adjust the center 2-point stapling position and adjust the alignment plate position.

6.1.1 Adjustment of the folding positions

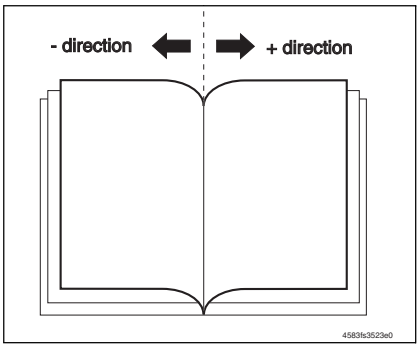
- When a folding position is adjusted, adjust the folding position to the stapling position. Make this adjustment after replacing the Finisher Control Board or when the folding position must be changed for some reason.

NOTE

- **Depending on the type of paper, both the folding position and the stapling position may be inaccurate. In this case, make adjustment independently from the Finisher. In this independent adjustment from the Finisher, set the adjustment value of [Center Stapling Position] and [Folding Position] in the service mode to ± 0 mm on the main unit.**



1. Set SW1 on the Finisher Control Board as shown on the Left figure.



2. Press PSW1 or PSW2 on the Finisher Control Board for the required times to adjust the folding position. One pressing of the switch moves the folding position by approx. 0.16 mm.

- Press PSW1 to move the folding position in the - direction.
- Press PSW2 to move the folding position in the + direction.
- Press PSW1 and PSW2 simultaneously to clear the present set adjustment value.

3. After setting the adjustment value of the folding position, set all bits of SW1 on the Finisher Control Board to OFF.

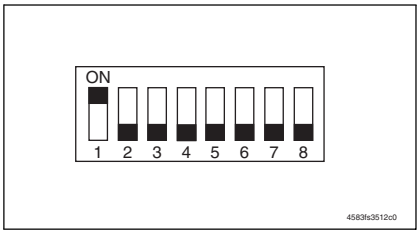
4. Perform the Booklet Creation on the main unit, and confirm that the folding position has been correctly adjusted. If not, redo the adjustment.

6.1.2 Adjustment of the center stapling position

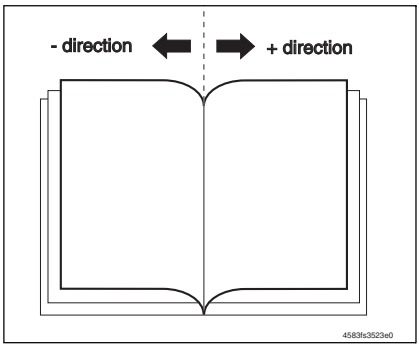
- When a stapling position is adjusted, adjust the stapling position to the folding position. Make this adjustment after replacing the Finisher Control Board or when the stapling position must be changed for some reason.

NOTE

- **Depending on the type of paper, both the folding position and the stapling position may be inaccurate. In this case, make adjustment independently from the Finisher. In this independent adjustment from the Finisher, set the adjustment value of [Center Stapling Position] and [Folding Position] in the service mode to ± 0mm on the main unit.**



1. Set SW1 on the Finisher Control Board as shown on the Left figure.



2. Press PSW1 or PSW2 on the Finisher Control Board for the required times to adjust the stapling position. One pressing of the switch moves the stapling position by approx. 0.14 mm.

- Press PSW1 to move the stapling position in the - direction.
- Press PSW2 to move the stapling position in the + direction.
- Press PSW1 and PSW2 simultaneously to clear the present set adjustment value.

3. After setting the adjustment value of the stapling position, set all bits of SW1 on the Finisher Control Board to OFF.

4. Perform the Booklet Creation on the main unit, and confirm that the stapling position has been correctly adjusted. If not, redo the adjustment.

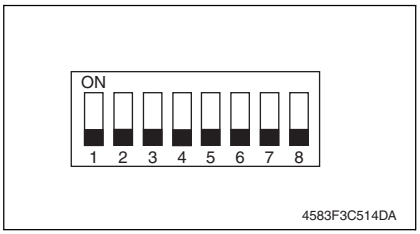
6.1.3 Adjustment of the Alignment Plate position

- Alignment plate should be adjusted when there is a faulty alignment, the staple position deviates.

A. Alignment procedure

NOTE

- **If a step or steps are wrongly performed in mid procedure, stop the procedure immediately. Then turn OFF the Main Power Switch of the main unit, wait for 10 sec. or more, and turn ON the Main Power Switch. After performing these steps, start the procedure over.**



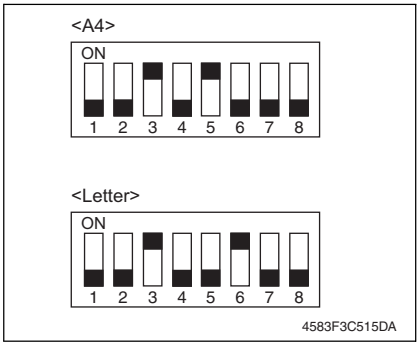
1. Turn main power switch OFF, and remove the Finisher from the machine.
2. Remove the rear cover form the Finisher.

☞ 7

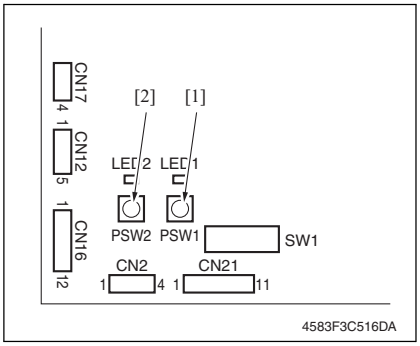
3. Check to make sure that all SW1 on the Finisher Controller Board are set to OFF.

NOTE

- **When not all of them are OFF, write down the switch status and turn them OFF.**

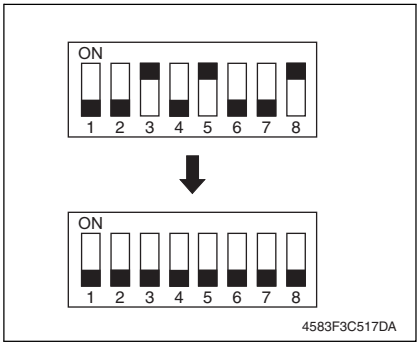


4. With the rear cover of the Finisher removed, install the Finisher to the machine, and turn main power switch ON.
5. When the initial operation of the Finisher is complete, turn on the following switches of SW1.
   When adjusting with A4: 3, 5
   When adjusting with Letter: 3, 6



6. After the initial operation of the Finisher, press the PSW1 [1] on the Finisher Control Board and make sure that the alignment plate moves to the selected paper size area.
7. Adjust the Alignment plate position with PSW1 [1] or PSW2 [2].
   When adjusting inward: Press PSW1.
   When adjusting outward: Press PSW2.

The alignment plate will move 0.367mm every time the push switch is pressed.
Alignment range is ± 2.936 mm.



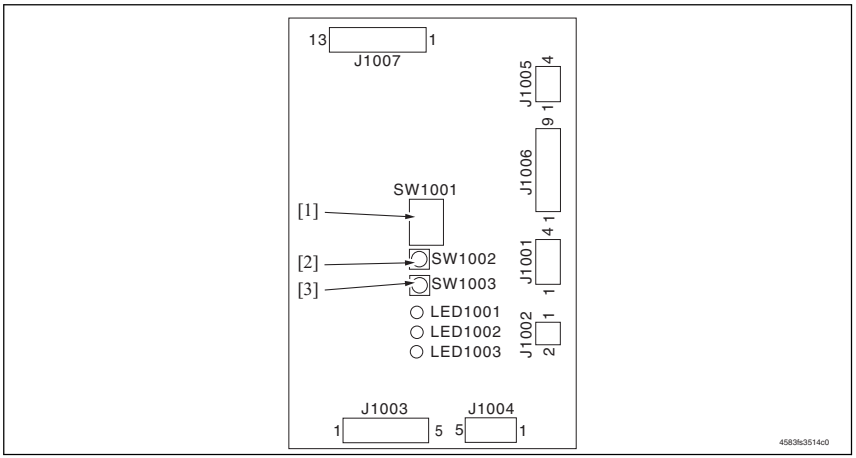
8. When the adjustment is complete, turn switch 8 of SW1 ON to set the adjustment value.
9. Turn all adjustment switches OFF.
10. Turn main power switch OFF.

NOTE

- **When not all SW1 are OFF in step 3, return to the original condition according to the written note.**

11. Return the Finisher to the original status.

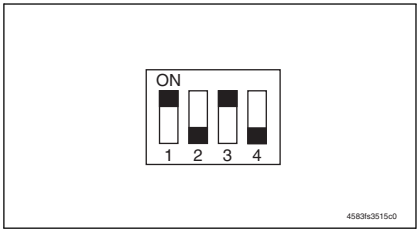
6.2 PWB-B PK (Punch Control Board)



	Symbol	Description
1	SW1001	Used to register the number of punched holes and adjust the sensor output.
2	SW1002	Used to register the number of punched holes and adjust the sensor output.
3	SW1003	Used to register the number of punched holes and adjust the sensor output.

6.2.1 Adjustment of the sensor output

- Be sure to make this adjustment after replacing the Punch Control Board, the Side Registration Sensor (Photosensor Board or LED Board) or the Punch Dust Full Sensor (Punch Dust Full Sensor Board or Punch Dust Full LED Board).

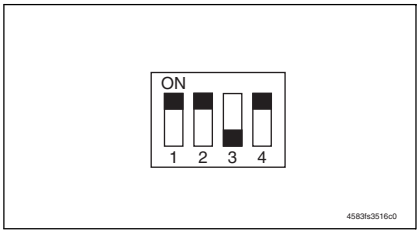


1. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.
2. Press SW1002 or SW1003 on the Punch Control Board. The sensor output will be automatically adjusted.
- When all LED1001, LED1002 and LED1003 light up, the adjustment has been completed.

3. Set all bits of DIPSW1001 to OFF.

6.2.2 Registration of the number of punch holes

- In order for the Finisher to recognize the number of punch holes that can be achieved by the installed Punch Unit, such number of punch holes is registered in the IC on the Punch Control Board. Make this registration whenever the Punch Control Board has been replaced.
- However, this registration is not necessary if the EEP-ROM used on an old board has been reinstalled to a new board.



1. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.

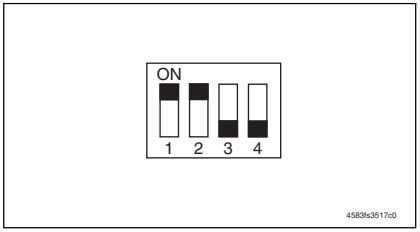
2. Press SW1002 on the Punch Control Board to select the number of punch holes.
- Each time SW1002 is pressed, the following display changes in the descending order shown below:

Number of punch holes	LED 1001	LED 1002	LED 1003
2 (Punch Unit J1)	ON	OFF	OFF
2/3 (Punch Unit K1)	ON	ON	OFF
4 (Punch Unit G1)	OFF	ON	OFF
4 (Punch Unit H1)	OFF	OFF	ON

3. Press SW1003 on the Punch Control Board twice. The number of punch holes will be registered in the Punch Control Board.
- The pressing of SW1003 changes the steady lighting of the LED to flickering, and the pressing of SW1003 again changes the flickering of the LED to steady lighting. This completes the registration.

4. Set all bits of DIPSW1001 to OFF.

6.2.3 Procedure after replacing the EEP-ROM (IC1002)



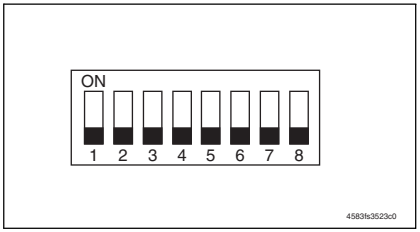
1. Turn OFF the Main Power Switch of the main unit.
2. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.
3. Press SW1002 and SW1003 on the Punch Control Board simultaneously.

- This will initialize the EEP-ROM. After the initialization, all LED1001, LED1002 and LED1003 light up.

4. Adjust the sensor output, and register the number of punch holes.
5. Set all bits of DIP SW 1001 to OFF.

6.2.4 Punch center position adjustment

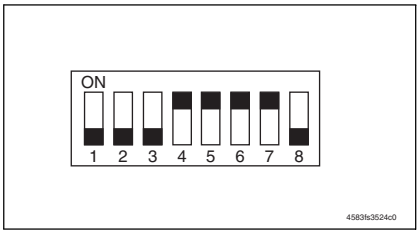
- This adjustment is made when the Punch lateral movement is changed from the lateral registration motion (automatic through end face detection) to fixed system based on the paper size.



1. Turn OFF the Main Power Switch of the main unit.
2. Remove the Rear Cover.

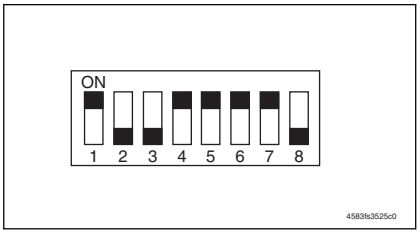
☞ 7

3. Check that all keys of SW1 of the Finisher Control Board are OFF.
4. Turn ON the Main Power Switch of the main unit and wait until the Finisher completes its initial operation.

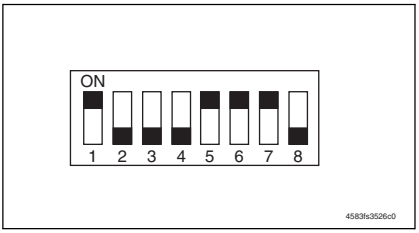


- Use the following procedure to clear the adjustment of the Punch lateral movement.

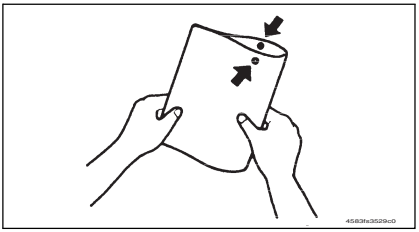
5. Turn ON keys 4, 5, 6, and 7 of SW1 of the Finisher Control Board.



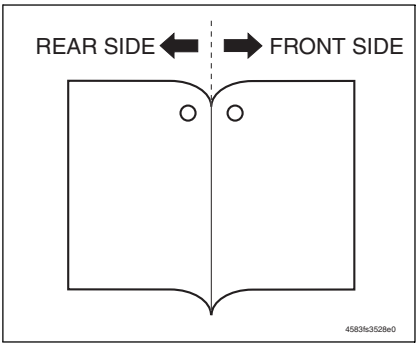
6. Turn ON key 1 of SW1 of the Finisher Control Board.
7. Press PSW1 and PSW2 of the Finisher Control Board at the same time.



8. Turn OFF key 4 of SW1 of the Finisher Control Board.
9. Wait until the machine becomes capable of paper feed.

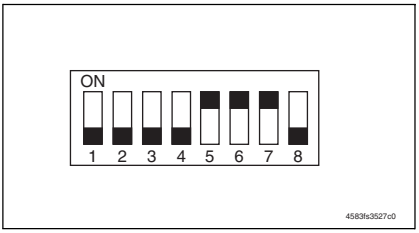


10. Feed one sheet of paper through the machine. Fold the copy fed out of the machine in half and check that the punch holes are aligned with each other.
Specifications:0 ± 2 mm
- If the specified range is not met, use the following procedure to adjust the Punch center position.



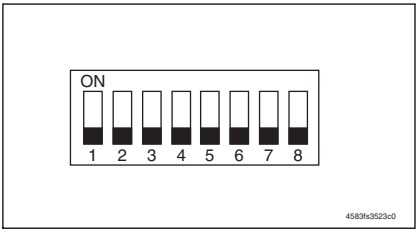
11. Press PSW1 or PSW2 of the Finisher Control Board once according to the direction of deviation.
- Pressing PSW1 moves the punch position to the front.
- Pressing PSW2 moves the punch position to the rear.
- Each press of PSW1 or PSW2 moves the position 1 mm. The adjustment range should be within ± 5 mm.

12. Feed another sheet of paper. If the punch hole position is not properly adjusted, make the adjustment once again.

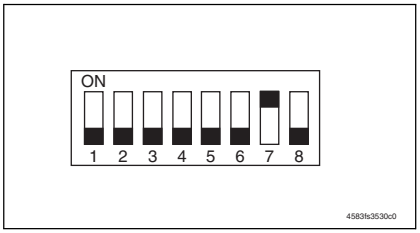


- When the adjustment procedure has been completed, use the following procedure to finish the adjustment mode.

13. Turn OFF key 1 of SW1 of the Finisher Control Board.



14. Turn OFF keys 5, 6, and 7 of SW1 of the Finisher Control Board.
15. Turn OFF the Main Power Switch of the main unit.



16. Turn ON key 7 of SW1 of the Finisher Control Board.

NOTE

- **Flipping ON key 7 of SW1 validates the setting made to the fixed system based on the paper size as changed from the lateral registration motion (automatic through end face detection).**
- **To return the setting back to the lateral registration motion, flip OFF key 7 of SW1.**

17. Turn ON the Main Power Switch of the main unit.

18. Reinstall the rear cover.

☞ 7

NOTE

- **The procedure must be carried out as specified. In particular, switching ON or OFF must be performed properly.**
- **If a step or steps are wrongly performed in mid procedure, stop the procedure immediately. Then turn OFF the Main Power Switch of the main unit, wait for 10 sec. or more, and turn ON the Main Power Switch. After performing these steps, start the procedure over.**
- **This adjustment is applicable only to the punch position center adjustment. The adjustment range is ± 5 mm. It does not adjust for variations in the punch hole positions.**

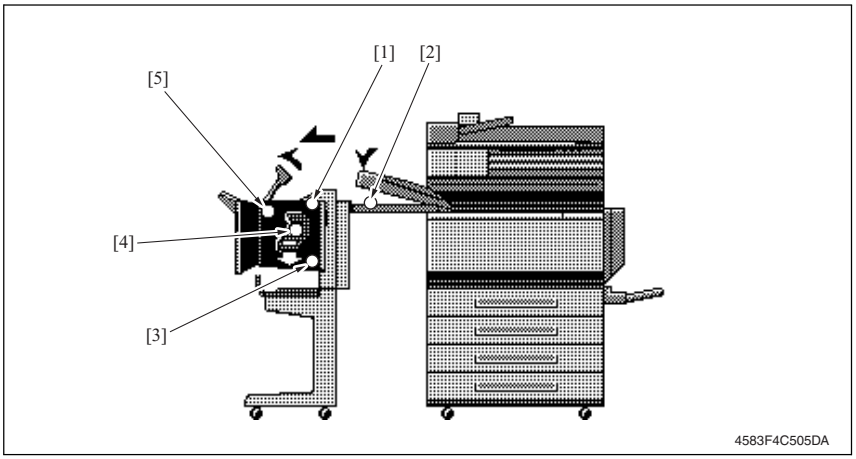
Blank Page

Troubleshooting

7. Jam Display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

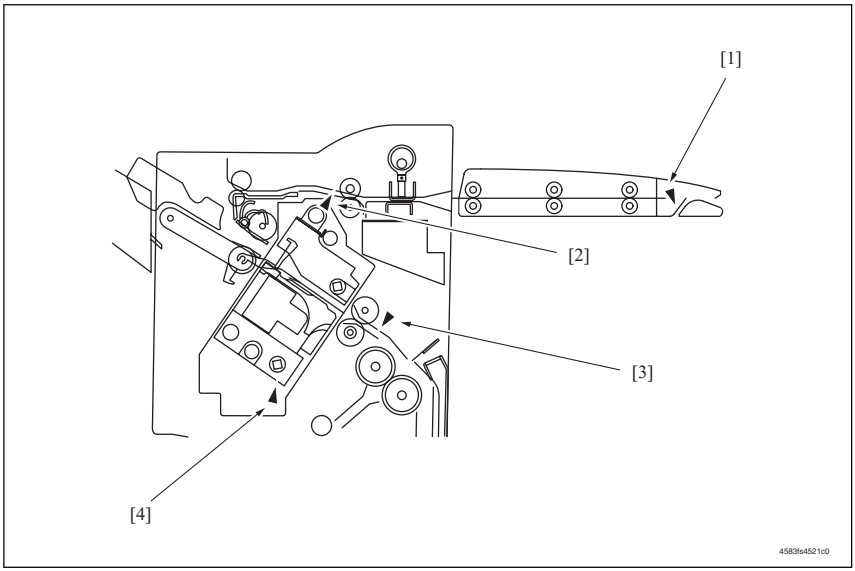


No.	Code	Misfeed location	Misfeed access location	Action
[1]	7401	Transport section	Front Door	☞ 53
[2]	7403	Horizontal Transport section	Horizontal Transport Cover	☞ 54
[3]	7407	Folding Position section	Front Door	☞ 54
[4]	7405	Stapler section	Front Door	☞ 55
[5]	7404	Paper Stack Exit section	Front Door	☞ 55

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

7.2 Sensor layout



[1]	Turnover Empty Sensor	PC6-HO	[3]	Folding Position Sensor	PI10-FN
[2]	Entrance Sensor	PI1-FN	[4]	Staple Drive Home Position Sensor	PI19-FN

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

7.3.2 Transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The Entrance Sensor (PI1-FN) does not detect paper even after the lapse of approx. 1.5 sec. after the Entrance Sensor (PI1-FN) has received the paper exit signal from the main unit.
	Paper is not removed from the Entrance Sensor (PI1-FN) even after the lapse of approx. 2 sec. after the Entrance Sensor (PI1-FN) has detected paper edge.

B. Action

Relevant electrical parts	
Entrance Sensor (PI1-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PI1-FN I/O, sensor check	PWB-A FN CN16A FN-11 (ON)	FS-603 B-8
3	PWB-A FN replacement	—	—

7.3.3 Horizontal Transport section misfeed

A. Detection timing

Type	Description
horizontal transport section misfeed detection	The Turnover Empty Sensor (PC6-HO) is not unblocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Turnover Empty Sensor (PC6-HO).

B. Action

Relevant electrical parts	
Turnover Empty Sensor (PC6-HO)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PC6-HO I/O, sensor check	PWB-A FN CN21A FN-5 (ON)	FS-603 G-7
3	PWB-A FN replacement	—	—

7.3.4 Folding position section misfeed

A. Detection timing

Type	Description
Folding position section misfeed detection	The Folding Position Sensor (PI10-FN) does not detect paper even after the set period of time after the paper has been fed from the Transport Booklet Tray to the stapling position during stapling operation.
	Paper is not removed from the Folding Position Sensor (PI10-FN) even after the lapse of approx. 10.5 sec. after the Staple/Folding Motor (M7-FN) has been driven during stapling operation.

B. Action

Relevant electrical parts	
Folding Position Sensor (PI10-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PI10-FN I/O, sensor check	PWB-A FN CN16A FN-2 (ON)	FS-603 B-8
3	PWB-A FN replacement	—	—

7.3.5 Stapler section misfeed

A. Detection timing

Type	Description
Stapler section misfeed detection	The Staple Drive Home Position Sensor (PI19-FN) is not turned OFF or does not return to its home position even after the set period of time after the stapler has been driven.

B. Action

Relevant electrical parts	
Staple Drive Home Position Sensor (PI19-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PI19-FN I/O, sensor check	—	—
3	PWB-A FN replacement	—	—

7.3.6 Paper Stack Exit section misfeed

A. Detection timing

Type	Description
Paper stack exit section misfeed detection	The Finisher Tray Sensor (PI6-FN) remains activated when a copy stack, which has been stapled together, is fed out.

B. Action

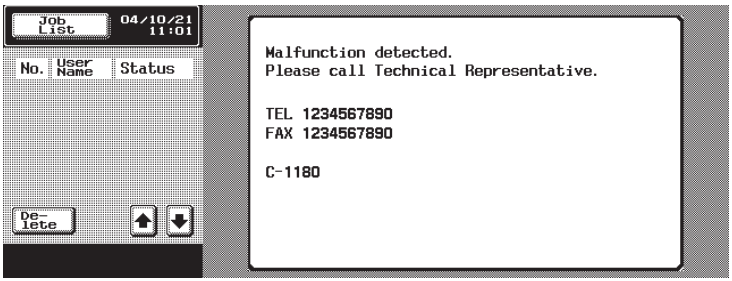
Relevant electrical parts	
Exit Motor (M3-FN) Finisher Tray Sensor (PI6-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PI6-FN I/O, sensor check	PWB-A FN CN5A FN-3 (ON)	FS-603 G-5
3	M3-FN operation check	PWB-A FN CN13A FN-3 to 6	FS-603 B-4
4	PWB-A FN replacement	—	—

8. Trouble code

8.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



4583F4E504DA

NOTE

- **Before starting the troubleshooting in relation to the Punch Mechanism C11CX, be sure to turn OFF the main power switch of the machine.**

8.2 Trouble code list

Code	Item	Description
C1180	Transport System Drive malfunctions	• The Folding Roller Home Position Sensor (PI12-FN) is not unblocked even after the lapse of a given period of time after the Folding Roller has started moving from its home position. • The Folding Roller Home Position Sensor (PI12-FN) is not blocked even after the lapse of a given period of time after the Folding Roller has started moving from a position not the home position.
C1181	Paddle Motor malfunctions	• The Paddle Home Position Sensor (PI2-FN) is not unblocked even after the lapse of a given period of time after the Paddle has started moving from its home position. • The Paddle Home Position Sensor (PI2-FN) is not blocked even after the lapse of a given period of time after the Paddle has started moving from a position not the home position. • The Swing Guide Home Position Sensor (PI3-FN) is not unblocked even after the lapse of a given period of time after the Booklet Roller has started moving from its home position. • The Swing Guide Home Position Sensor (PI3-FN) is not blocked even after the lapse of a given period of time after the Booklet Roller has started moving from a position not the home position.
C1183	Elevate Mechanism malfunctions	• The Exit Tray Home Position Sensor (PI9-FN) is not blocked even after the lapse of a given period of time after the tray has started moving up. • An encoder clock input is not detected within a given period of time during operation of the tray.

Code	Item	Description
C1192	Front Aligning Plate Motor malfunctions	• The Front Aligning Plate Home Position Sensor (PI4-FN) is not unblocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from its home position to a position out of the home position. • The Front Aligning Plate Home Position Sensor (PI4-FN) is not blocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from a position out of the home position to the home position.
C1193	Rear Aligning Plate Motor malfunctions	• The Rear Aligning Plate Home Position Sensor (PI5-FN) is not unblocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from its home position to a position out of the home position. • The Rear Aligning Plate Home Position Sensor (PI5-FN) is not blocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from a position out of the home position to the home position.
C11A4	Booklet Exit Motor malfunctions	• The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an initial operation. • The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an ordinary operation. • The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an initial operation. • The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an ordinary operation.
C11B1	Stapler Unit Slide Motor malfunctions	• The Slide Home Position Sensor (PI18-FN) is not unblocked even after the lapse of a given period of time after the Stapler Unit has started moving from its home position. • The Slide Home Position Sensor (PI18-FN) is not blocked even after the lapse of a given period of time after the Stapler Unit has started moving from a position not the home position.

Code	Item	Description
C11B4	Stapler/Folding Motor malfunctions	• The Staple Drive Home Position Sensor (PI19-FN) is not blocked even after the lapse of a given period of time after the clinch operation has started. • An encoder clock input is not detected within a given period of time during a clinch operation. • The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after the Folding Unit has started moving from a position out of the home position during an initial operation. • The Folding Home Position Sensor (PI11-FN) is not unblocked even after the lapse of a given period of time after a folding operation has been started during an ordinary operation. • The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after a folding operation has been started and the sensor has been unblocked during an ordinary operation. • An encoder clock input is not detected within a given period of time during a folding operation.
C11C1	Punch Control Board malfunctions	• No response is received to a request made by the Finisher within a given period of time during initial communications. • No response is received to a request made by the Finisher within a given period of time during ordinary communications. • There is no match in the checksum values of the backup data as checked twice. • The 24 V power source of the Punch Unit is OFF when an operation request is made from the Finisher.
C11C2	Punch Side Registration Motor malfunctions	• The Side Registration Home Sensor (PI2P-PK) is not unblocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from its home position. • The Side Registration Home Sensor (PI2P-PK) is not blocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from a position not the home position.
C11C3	Punch Motor malfunctions	• The home position is not detected within a given period of time after the Punch Motor has been rotated a half turn. • An encoder clock input is not detected even after the lapse of a given period of time during operation of the Punch Motor. • The setting value calculated during the initial operation falls outside the threshold value range.
C11C5	Punch Sensor malfunctions	• The light receiving voltage is 2.5 V or less when the illuminating voltage is set to 4.4 V. • The light receiving voltage is 2.5 V or more when the illuminating voltage is set to 0 V. • The illuminating voltage setting is 4.4 V or more after the adjustment has been made.
C1401	Backup RAM malfunction	• Data written in the Backup Memory differs from what is recorded in it and writing operation is not correctly performed even with two retry sequences (a total of three writing sequences).

NOTE

- **The Punch Unit detects punch-related malfunctions and notifies the Finisher of any malfunction detected.**

8.3 Solution

8.3.1 C1180: Transport System Drive malfunctions

Relevant electrical parts	
Folding Roller Home Position Sensor (PI12-FN) Transport Motor (M1-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI12-FN I/O, sensor check	PWB-A FN CN16A FN-9 (ON)	FS-603 B-8
4	M1-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN10A FN-3 to 6	FS-603 B-6
5	PWB-A FN replacement	—	—

8.3.2 C1181: Paddle Motor malfunctions

Relevant electrical parts	
Paddle Home Position Sensor (PI2-FN) Swing Guide Home Position Sensor (PI3-FN) Paddle Motor (M2-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI2-FN I/O, sensor check	PWB-A FN CN9A FN-2 (ON)	FS-603 B-8
4	PI3-FN I/O, sensor check	PWB-A FN CN9A FN-8 (ON)	FS-603 G-9
5	M2-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN10A FN-9 to 12	FS-603 B-6
6	PWB-A FN replacement	—	—

8.3.3 C1183: Elevate Mechanism malfunctions

(1) Upper Limit Sensor

Relevant electrical parts	
Shift Upper Limit Sensor (PI15-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PI15-FN I/O, sensor check	PWB-A FN CN15A FN-12 (ON)	FS-603 G-5
3	PWB-A FN replacement	—	—

8.3.4 C1192: Front Aligning Plate Motor malfunctions

Relevant electrical parts	
Front Aligning Plate Home Position Sensor (PI4-FN) Front Aligning Motor (M4-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI4-FN I/O, sensor check	PWB-A FN CN4A FN-2 (ON)	FS-603 G-6
4	M4-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN3A FN-2 to 5	FS-603 B-4
5	PWB-A FN replacement	—	—

8.3.5 C1193: Rear Aligning Plate Motor malfunctions

Relevant electrical parts	
Rear Aligning Plate Home Position Sensor (PI5-FN) Rear Aligning Motor (M5-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI5-FN I/O, sensor check	PWB-A FN CN15A FN-12 (ON)	FS-603 G-5
4	M5-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN3A FN-7 to 10	FS-603 B-4
5	PWB-A FN replacement	—	—

8.3.6 C11A4: Booklet Exit Motor malfunctions

Relevant electrical parts	
Exit Belt Home Position Sensor (PI7-FN) Exit Motor (M3-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI7-FN I/O, sensor check	PWB-A FN CN5A FN-6 (ON)	FS-603 G-5
4	M3-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN13A FN-3 to 6	FS-603 B-4
5	PWB-A FN replacement	—	—

8.3.7 C11B1: Stapler Unit Slide Motor malfunctions

Relevant electrical parts	
Slide Home Position Sensor (PI18-FN) Slide Motor (M8-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI18-FN I/O, sensor check	PWB-A FN CN11A FN-3 (ON)	FS-603 B to C-5
4	M8-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN7A FN-3 to 6	FS-603 B-5
5	PWB-A FN replacement	—	—

8.3.8 C11B4: Stapler/Folding Motor malfunctions

(1) Wiring

Relevant electrical parts	
Staple Drive Home Position Sensor (PI19-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI19-FN I/O, sensor check	—	—
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-1 to 2	FS-603 B-3
5	PWB-A FN replacement	—	—

(2) Stapler/Crease Clock Sensor (Stapler Section)

Relevant electrical parts	
Staple/Folding Motor Clock Sensor (PI14-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI14-FN I/O, sensor check	PWB-A FN CN4A FN-2 (ON)	FS-603 G-6
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-1 to 2	FS-603 B-3
5	PWB-A FN replacement	—	—

(3) Home Position Sensor

Relevant electrical parts	
Folding Home Position Sensor (PI11-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI11-FN I/O, sensor check	PWB-A FN CN16A FN-6 (ON)	FS-603 B-8
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-1 to 2	FS-603 B-3
5	PWB-A FN replacement	—	—

(4) Stapler/Crease Clock Sensor (Saddle Section)

Relevant electrical parts	
Staple/Folding Motor Clock Sensor (PI14-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI14-FN I/O, sensor check	PWB-A FN CN9A FN-5 (ON)	FS-603 G-8
4	M7-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-1 to 2	FS-603 B-3
5	PWB-A FN replacement	—	—

8.3.9 C11C1: Punch Control Board malfunctions

Relevant electrical parts	
Finisher Control Board (PWB-A FN) Punch Control Board (PWB-B PK)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Turn OFF the Main Power Switch, wait for 10 sec. or more, and turn ON the Main Power Switch.	—	—
2	Check the connection condition between the Punch Unit and PWB-A FN.	—	—
3	Measure the voltage between CN14-5 (+) and CN14-3 (-) of the PWB-A FN. Is the voltage 24VDC?	—	—
4	Initialize Punch Unit EEP-ROM.	—	—
5	PWB-B PK replacement	—	—
6	PWB-A FN replacement	—	—

8.3.10 C11C2: Punch Side Registration Motor malfunctions

Relevant electrical parts	
Side Registration Home Sensor (PI2P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PI2P-PK I/O, sensor check	PWB-B PK J1006B PK-3 (ON)	FS-603 H-2
3	PWB-B PK replacement	—	—

8.3.11 C11C3: Punch Motor malfunctions

Relevant electrical parts	
Punch Home Position Sensor (PI1P-PK) Punch Motor Clock Sensor (PI3P-PK) Punch Motor (M1P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI1P-PK I/O, sensor check	PWB-B PK J1006B PK-6 (ON)	FS-603 H-2
4	PI3P-PK I/O, sensor check	PWB-B PK J1006B PK-9 (ON)	FS-603 H-2
5	M1P-PK operation check when the Main Power Switch is turned OFF and ON.	PWB-B PK J1002B PK-1 to 2	FS-603 H-1 to 2
6	PWB-B PK replacement	—	—

8.3.12 C11C5: Punch Sensor malfunctions

(1) Side Registration Sensor

Relevant electrical parts	
Side Registration Home Sensor (PI2P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PI2P-PK I/O, sensor check	PWB-B PK J1006B PK-3 (ON)	FS-603 H-2
3	PWB-B PK replacement	—	—

(2) Wastes Full Sensor

Relevant electrical parts	
Punch Control Board (PWB-B PK) Punch Trash Full Photo Sensor Board (PWB-E PK) Punch Trash Full LED Board (PWB-F PK)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the connection condition between PWB-B PK and PWB-E PK.	—	—
2	Check the connection condition between PWB-B PK and PWB-F PK.	—	—
3	PWB-E PK replacement	—	—
4	PWB-F PK replacement	—	—
5	PWB-B PK replacement	—	—

(3) Finisher Control Board

Relevant electrical parts	
Exit Tray Home Position Sensor (PI9-FN) Shift Motor Clock Sensor (PI17-FN) Shift Motor (M6-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PI9-FN I/O sensor check	PWB-A FN CN5A FN-12 (ON)	FS-603 G-6
4	PI17-FN I/O sensor check	PWB-A FN CN15A FN-6 (ON)	FS-603 G-4
5	M6-FN operation check when the Main Power Switch is turned OFF and ON.	PWB-A FN CN6A FN-1 to 2	FS-603 B-3
6	PWB-A FN replacement	—	—

8.3.13 C1401: Backup RAM malfunction

Relevant electrical parts	
Finisher Control Board (PWB-A FN)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Disconnect and then connect the power cord. Turn OFF the Main Power Switch, wait for 10 sec. or more, and turn ON the Main Power Switch.	—	—
2	Check the connectors for proper connection on the PWB-A FN.	—	—
3	PWB-A FN replacement	—	—

Blank Page

KONICA MINOLTA

© 2005 KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

Use of this manual should be strictly supervised to
avoid disclosure of confidential information.

Printed in Japan
DD4038PE1-0800